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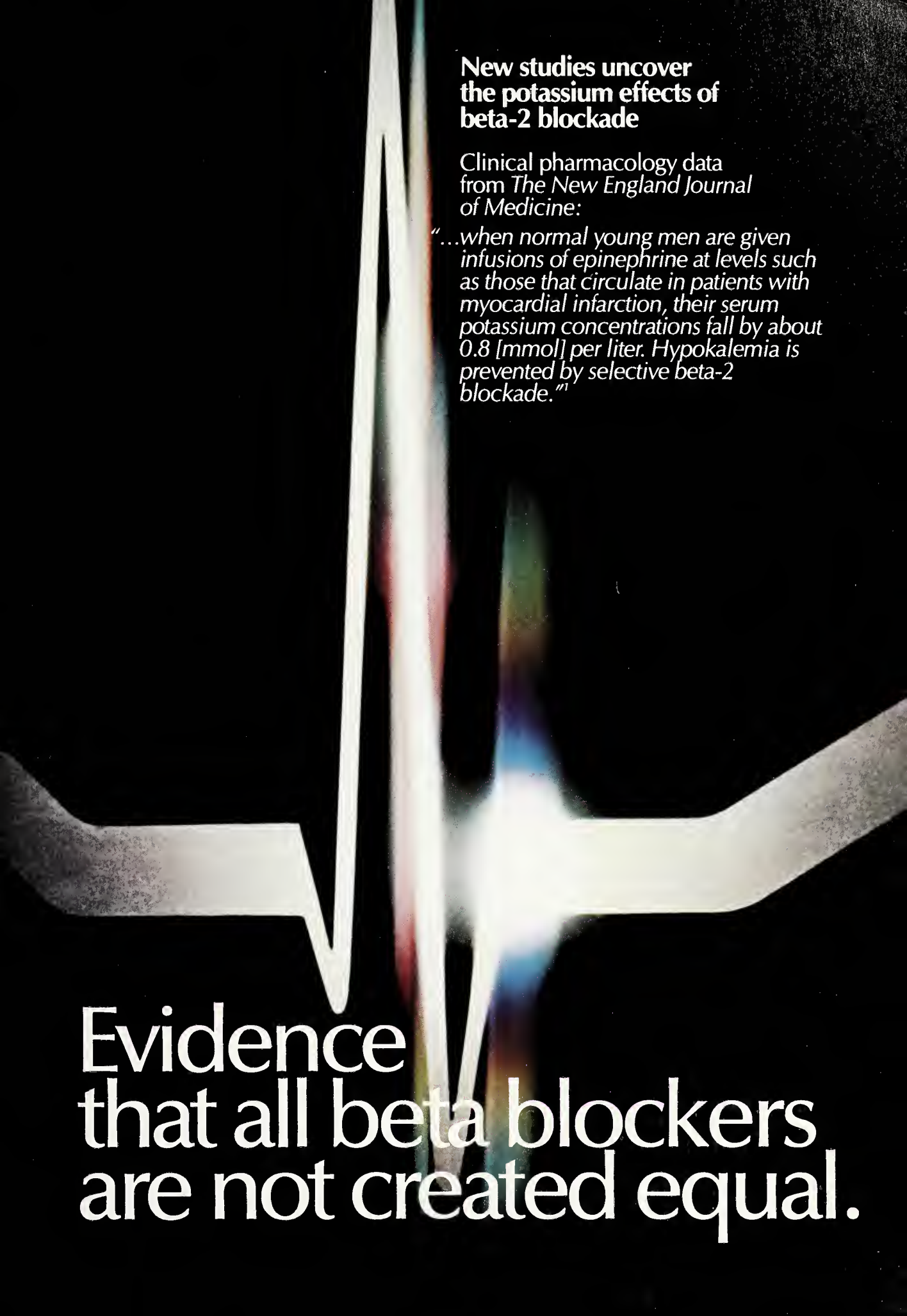
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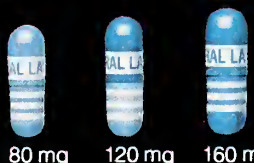
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Please see brief summary of prescribing information on the next page for further details.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibito receptor agonists and its effects can be reversed by administration of such age dobutamine or isoproterenol. However, such patients may be subject to protracte hypotension. Difficulty in starting and maintaining the heartbeat has also been repo beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta-adrenergic blockade may preven pearance of certain premonitory signs and symptoms (pulse rate and pressure ch acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may difficult to adjust the dosage of insulin.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperth Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of s of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid funct

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases h reported in which, after propranolol, the tachycardia was replaced by a severe bra requiring a demand pacemaker. In one case this resulted after an initial dose propranolol.

PRECAUTIONS. *General:* Propranolol should be used with caution in patients with hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the trea hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure should be told that INDERAL may interfere with the glaucoma screening test. Withdra lead to a return of increased intraocular pressure.

Clinical Laboratory Tests: Elevated blood urea levels in patients with severe heart elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such pine should be closely observed if INDERAL is administered. The added catech blocking action may produce an excessive reduction of resting sympathetic nervou which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or or hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Long-term studies in anim been conducted to evaluate toxic effects and carcinogenic potential. In 18-month s both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of si drug-induced toxicity. There were no drug-related tumorigenic effects at any of the levels. Reproductive studies in animals did not show any impairment of fertility attributable to the drug.

Pregnancy: Pregnancy Category C. INDERAL has been shown to be embry animal studies at doses about 10 times greater than the maximum recommended hum

There are no adequate and well-controlled studies in pregnant women. INDERA be used during pregnancy only if the potential benefit justifies the potential risk to t

Nursing Mothers: INDERAL is excreted in human milk. Caution should be exercis INDERAL is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient a rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV bloc tension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usua Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by ir lassitude, weakness, fatigue, reversible mental depression progressing to catatoni disturbances, hallucinations, an acute reversible syndrome characterized by disorien- time and place, short-term memory loss, emotional lability, slightly clouded sensori decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, d constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined wit and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocy purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus h reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, ma tence, and Peyronie's disease have been reported rarely. Oculomucocutaneous r involving the skin, serous membranes and conjunctivae reported for a beta blocker (p have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochlo sustained-release capsule for administration once daily. If patients are switched from IN tablets to INDERAL LA capsules, care should be taken to assure that the desired the effect is maintained. INDERAL LA should not be considered a simple mg for mg subs INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitra be necessary especially to maintain effectiveness at the end of the 24-hour dosing

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is INDERAL LA once daily, whether used alone or added to a diuretic. The dosage increased to 120 mg once daily or higher until adequate blood pressure control is ac The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosag mg may be required. The time needed for full hypertensive response to a given do variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDE once daily, dosage should be gradually increased at three to seven day intervals until c response is obtained. Although individual patients may respond at any dosage le average optimum dosage appears to be 160 mg once daily. In angina pectoris, the va safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDE once daily. The usual effective dose range is 160-240 mg once daily. The dosage increased gradually to achieve optimum migraine prophylaxis. If a satisfactory respon obtained within four to six weeks after reaching the maximum dose, INDERAL LA should be discontinued. It may be advisable to withdraw the drug gradually over a p several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group limited to permit adequate directions for use.

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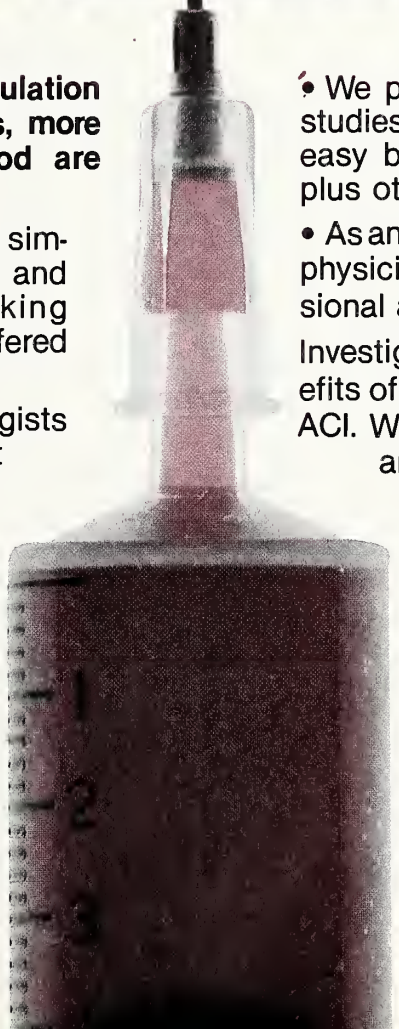
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Cardiac Complications of Intensive Dieting and Eating Disorders

Tali H. Arik, M.D.
Kenneth B. Desser, M.D.
Alberto Benchimol, M.D.

Editor:
Kenneth B. Desser, M.D.

The purpose of this paper is to summarize the cardiac effects of intensive dieting, and discuss the complications of anorexia and bulimarexia.

Ultra-Low Calorie Diets

The ultra-low calorie diet is low in energy (300 to 600 kcal) and composed almost entirely of protein, or a mixture of protein and carbohydrate. The key feature of the diet is maintenance of positive nitrogen balance with sparing of muscle mass, despite dramatic loss of body fat. Twenty-five to 30% loss of the total body weight may be achieved with this regimen[1] and after a 2-year period, a significant percentage of patients maintain their weight loss.[2] This figure contrasts with the average 8.5 kg weight loss in people participating in commercial weight loss centers where only 20% of the population starting such a program are still enrolled at 24 weeks.[3] The common side effects of ultra-low calorie diets include fatigue, dehydration, orthostatic dizziness, hair loss, skin dryness, cold tolerance, muscle cramps, amenorrhea and decreased libido.[3]

In 1977, the Center for Disease Control reported the first cases of deaths associated with liquid protein diets. In 1978, Singh, et al. described three dieting patients who presented with recurrent syncope.[4] All three patients had "Torsades de pointes" (polymorphou ventricular tachycardia, and two subjects died fro arrhythmias. The patients were women aged 27, 33 ar 35, and had lost 36 to 41 kg over the preceding fi months while on very low calorie diets. All three patien had abnormal electrocardiograms, showing promine U waves, QT interval prolongation, and nonspecific ST changes despite absence of electrolyte abnormalit These observations suggested that a mode of death patients on liquid protein diets was ventricular arrhytl mia secondary to repolarization abnormality. Interes ingly, the sole survivor of this group had normalizatic of the electrocardiogram following treatment.

Brown, et al.[5] described a patient dying while on a di comprising 300 kcal/day in the form of liquid prote hydrolysate supplemented by vitamins and 20 meq. (potassium chloride daily, while under close medic supervision. The patient presented with syncope ar died within 24 hours from intractable ventricular tach cardia. There were no electrolyte abnormalities and th electrocardiogram demonstrated both generalized lo voltage and significant Q-TU interval prolongatio Gross necropsy of the heart showed two antemorte thrombi, one in the left ventricle and one affixed to th right coronary aortic valve cusp. Significant abnormal ties present at the cellular level included a disruption i myofibrils, with a decrease in their number. This cas study was quite similar to a 1969 Lancet report,[6] wher the first well documented sudden death of such a sub ject was described. The patient, age 20 years, lost 58 kg i 30 weeks.

The electrocardiographic findings in patien reported by the Center for Disease Control included lo voltage, ST-T changes, Q-TU interval prolongation, an ventricular arrhythmias.[7] By July 1978, 46 deaths assc ciated with the use of liquid protein were being invest gated. The widespread use of these diets, and th dangers attendant thereto, evoked negative editoria comment by *JAMA* in 1978.[8] This editorial resulted in published analysis of the electrocardiograms from 90 patients of two centers where such diets wer employed. These diets were very low in calories, consis ing of high biologic value protein, supplemented wit minerals.[9] None of their patients had significant Q-T interval prolongation. Since many commercially availa ble liquid protein preparations were prepared fror tissue sources of notoriously poor biologic value, grossl deficient in trace minerals, it was suggested that th favorable experience at these medical centers was du to use of higher quality protein and diet supplements. tempered view emerged from the American College c Cardiology meeting in 1979.[10] Dr. Jeffrey Isner, from th National Heart, Lung and Blood Institute acknowledge the complications of such diets, based on necropsy stu dies of 17 patients. Serial electrocardiography wa recommended as a means of following patients on th diets.

Amatruda, et al.[11] indicated safety of properly supple mented low calorie diets of high biologic value. Poten

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ly life-threatening ventricular arrhythmias were ected by Holter monitoring in six obese patients ng treated with a commercial liquid protein prepara- n. The arrhythmias increased in frequency and com- xity as the diet was continued. No identifiable ctrolyte abnormalities accounted for the arrhythmias d there was no Q-TU interval prolongation: Crossover a high biologic value protein diet with mineral sup- mentation resulted in resolution of the arrhythmias. n 1984, Kreitzman, et al. suggested that use of the called "Cambridge" diet for 28 days did not incur diovascular risk.[12] The safety of this diet may reside in content, short duration of use, or both factors.

limarexia and Anorexia Nervosa

A recent review[13] provides a thorough overview of the edical complications of these two disorders which ve received a great deal of notoriety. Anorexia ner- sa is characterized by severe protein-caloric malnutri- n with loss of at least 25% of premorbid body weight. limia represents "binge" eating. To counter the ects of episodic consumption of 15,000 to 20,000 calo- s, purging by means of vomiting and/or laxation often ompanies the condition. Bulimarexia is the term aracterizing the "binge-purge" patient. Sudden ath is a recognized complication of anorexia ner- sa.[14] The risk develops and increases as body weight clines to less than 35% to 40% of ideal values. Severe sting of the myocardium with heart failure accounts most anorexia related deaths.

Cardiovascular function in anorectics was studied mprehensively in 1977.[15] Of 31 patients, only four had eart rate greater than 60. The balance of subjects had es ranging from 28 to 60. An underlying sinus mecha- m was common, but sinoatrial arrest and ectopic atrial thm were also seen. Cardiovascular adaptation to ercise was abnormal with blunted maximum heart es and reduced weight adjusted maximal oxygen con- nption. Respiratory quotient analysis and serial blood tate values allowed exclusion of "poor motivation" ring the stress tests as the cause of the observed crease in exercise capacity. Patients who were re- died after weight gain manifested a return to normal these parameters.

lectrocardiographic findings associated with ano- ia nervosa have been described by several authors.[14-] A majority of anorectic patients have abnormal ctrocardiograms, including nonspecific ST-T nges, flat or inverted T waves, tall, peaked T waves d downsloping ST segments in leads II, III and the ecordial leads. Peaked P waves and large U waves in ds II and III are also common as is low voltage and TU interval prolongation. No electrolyte abnormali- s were found, which accounted for these electrocar- graphic findings. Caution has been advised in the escription of psychotropic drugs in the treatment of orectic patients with such electrocardiographic normalities,[19] since the disorder of repolarization may worsened. Two reports[17,18] have pointed out the sim- ities between the electrocardiographic findings noted in anorexia and intracranial injury. It was suggested that a hypothalamic abnormality in anoretic patients may result in the electrocardiographic changes mediated by the sympathetic nervous system and influence of catecholamines on the heart.

Left ventricular systolic function determined by echocardiography and radionuclide angiography, at rest and during exercise, indicates no gross impairment of function despite significant decreases in cardiac dimensions.

The problem of cardiac failure in anorectics, especially during the refeeding phase, has been described. Two studies on starvation from the 1940s provide the framework for understanding this complication, and were reviewed by Powers.[20] Thirty-two men who had lost 25% of their weight in six months were studied during weight loss and a controlled rehabilitation period of weight gain. During starvation, bradycardia and hypotension occurred, with decreases in heart size and stroke volume. During weight gain, the recovery of stroke volume lagged considerably behind recovery in heart volume. End diastolic volume was increased disproportionately to stroke volume, end systolic volume was normal and ejection fraction was diminished. Recovery of predicted double product was incomplete after five months of refeeding. Dyspnea was common in the period from two to five months after initiation of refeeding, with elevated venous pressures. These findings suggest that myocardial reserve recovers too slowly during refeeding to meet the demands imposed by improvement of the overall metabolic state. The problems attendant to overzealous intravenous hydration and parenteral nutrition can be explained on this basis. Recommendations regarding the avoidance of "refeeding heart failure" include restriction of physical activity, careful surveillance for the signs and symptoms of heart failure, and treatment in a monitored unit equipped and staffed to handle cardiac emergencies until the patient has been stabilized.[21]

When bulimia complicates anorexia, cardiac dysfunction may occur. Binge eating can precipitate heart failure by mechanisms already described. To the extent that such patients crave excessive amounts of high salt and high fat foods, they may be more prone to atherosclerosis, although this has not been proven.[13] The use of ipecac for purging has been reported[22] to cause cardiac toxicity, manifested as conduction defects, arrhythmias and fatal myocarditis. Patients abusing ipecac can have significant systemic absorption, leading to toxicity if emesis is delayed or does not occur. Finally, laxative and diuretic induced hypokalemia is recognized. Chronic hypokalemia may produce a congestive cardiomyopathy, and more commonly, arrhythmias. These are possible complications of bulimarexia.

The ultimate prevention of anorexia nervosa and bulimia related cardiac complications is based on specific therapy for the underlying psychologic disorder. Unfortunately, many of the most flagrant cases, notorious for evoking the cited abnormalities, are resistant to intensive therapy.

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Neurosurgery

Recent Experience with Chemonucleolysis: Community Standards and Factors Affecting Outcome

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Introduction

In 1934, Mixter and Barr first clinically described th herniated lumbar disc.[1,2] It was treated by laminecton and excision. In 1956, chymopapain was introduced l Lewis Thomas,[1] and in 1963, chemonucleolysis was dev loped by Lyman Smith.[1,3] Between 1963 and 1974, 10,0 Americans received chymopapain; however, early clir cal trials failed to convince the Food and Drug Admin tration (FDA) of its effectiveness. In the early 1980s double-blind randomized study demonstrated chymo apain to be a useful alternative to disc excision, and November of 1982, the FDA released chymopapain f the treatment of lumbar disc disease.[4]

Specific restrictions for use of the drug were ma dated, including limiting the use of chymopapain physicians familiar with the surgical treatment of di disease. Specific guidelines have been proposed co cerning patient selection and care. To determine pr vailing community standards, and to assess factors whi may have an impact upon outcome, we studied the fi 100 patients treated by chemonucleolysis (following reintroduction) at the Barrow Neurological Institute.

From: Division of Neurological Surgery, Barrow Neurological In tute, Phoenix, Arizona. The views of the authors are their own and not to be construed as official or reflecting the views of the Depa ment of the Army or the Department of Defense. Reprint requests Editorial Office, Barrow Neurological Institute, 350 West Thomas Ro Phoenix, Arizona 85013.

ethods

Hospital charts for the first 100 patients treated by emonucleolysis were audited. Nine criteria and six lative contraindications which were previously pubhed by McCulloch in *Alternatives in Spinal Surgery* ere adapted for our audit.[5] Criteria listed in Table 1 ere established and were checked for each patient. Six lative contraindications listed in Table 2 were also viewed. Demographic information and data from the perative reports were also compiled. A follow-up sury was conducted to assess the results, based upon an tcome scale detailed in Table 3.

Table 1

Patient should have predominantly leg (versus back) pain.
The pain should be in a radicular distribution.
The straight leg raising test should be positive.
Two of four neurological signs should be present (hypesthesia, weakness, reflex change, wasting).
The CT or myelogram should support the diagnosis.
The symptoms should be present at least three months.
There should be a two week trial of bedrest.
There should be an adequate trial of conservative therapy.
There should be no major medical problems.

Table 2

There should be no severe or progressive neurological deficit.
There should be no sphincter disturbance.
Spinal stenosis should not be present.
Pregnant women should not be treated by chemonucleolysis.
There should not have been prior lumbar spinal surgery.
The sedimentation rate should be below 20 in women.

Table 3
Outcome Scoring Scale

Outcome—Pain

Excellent: pain free.
Good: rare pain/occasionally uses nonprescription analgesic.
Fair: occasional pain/requires prescription analgesic.
Poor: little improvement in preoperative pain.
Bad: pain unchanged or worse than original pain.

Outcome—Activity

Excellent: resumed prior activities/returned to old job.
Good: some restriction of activities/old or new job.
Fair: moderate restriction of activities/old or new job.
Poor: can perform few activities/not working or job change.
Bad: requires help with almost all activities/not working.

The results of the audit were tabulated and were rrelated with the outcome scores. As the scale was a nparametric measure which only attained an ordinal el of measurement, the statistical test selected for judging outcome was the Mann-Whitney U Test. Parametric data (such as age) were compared with a standard T-test. Patients were considered to be chemonucleolysis failures when they received a score of 2 or lower in either category in the outcome scale, or when they were later treated by laminectomy.

Results

General Information—One hundred patients were treated by chemonucleolysis at the Barrow Neurological Institute between March 24th, 1983 and July 19th, 1984. All patients underwent injection of chymopapain under general anesthesia in the neuroradiology suite under the direction of biplane fluoroscopy. A discogram was performed in all but one patient. Patients were observed in the recovery room for at least two hours after injection. Chymodiactin was the only brand of chymopapain used during the period of our study.

There were 65 males and 35 females treated, with an average age of 40.55± 11.97 years (range 16 to 83 years). Sixteen physicians performed a total of 116 injections. The number of patients treated by each physician ranged from 31 patients to a single patient (6 physicians) (Table 4). Neurosurgeons treated 85 of the patients, while orthopedic surgeons treated 15 patients. A single level was injected in 85 patients, two levels were injected in 14, and three levels were injected in one patient (Table 5). The most frequently injected level was the L4/L5 level (62) followed by the L5/S1 level (51) (Table 6). The L3/L4 level was only injected three times, and in all cases it was injected in conjunction with chemonucleolysis at another level. The length of hospital stay is presented in Figure 1. The usual length of hospitalization was three to six days, and discharge typically occurred on the second or third day after injection. However, there were several patients who underwent chemonucleolysis on the day of admission and were discharged on the following day.

Table 4
Physicians and Number of Procedures

A	31	I	2
B	16	J	2
C	10	K	1
D	9	L	1
E	9	M	1
F	7	N	1
G	4	O	1
H	4	P	1

Table 5
Number of Levels Injected

1 Level		85 Patients
2 Levels		14 Patients
3 Levels		1 Patient
Total	116 Levels	100 Patients

Table 6
Levels Injected

L3/L4	3 Injections
L4/L5	62 Injections
L5/S1	51 Injections
Total	116 Injections

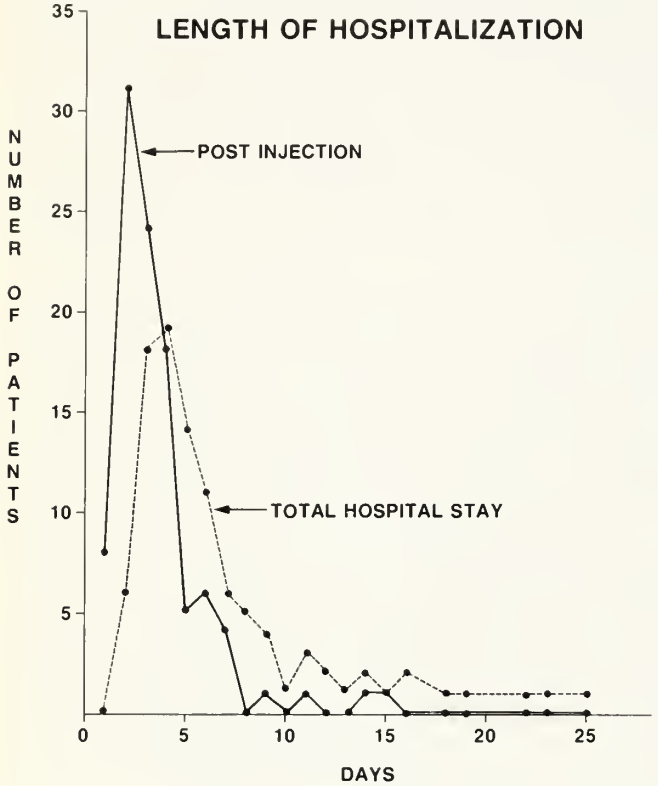


Figure 1

Chemonucleolysis Audit—The selection criteria outlined in Table 1 were reviewed for all patients. In 95% of cases, the patients met at least seven of the nine criteria, and in 41% all of the criteria were met (Table 7). The individual criteria and the number of patients not meeting each are presented in Table 8. The most commonly missed criterion was the presence of at least two of four neurologic signs. Only six patients with back pain (rather than leg pain) as the predominant complaint were treated, and all but seven patients had their pain in a radicular distribution. There were 19 patients who did not meet the criterion for straight leg raising (SLR), but in some of these cases there was a positive SLR below the 50 degree cutoff. Two patients who did not have computed tomographic (CT) or myelographic evidence of a herniated disc were injected, but both had abnormal discograms. Ten patients were injected after less than three months of symptoms, but subsequent analysis demonstrated that these patients, in fact, had a better outcome compared to the other patients who met this criterion. All patients underwent an adequate trial of conservative therapy. Six patients with medical problems that were not considered to be contraindications to anesthesia or chemonucleolysis were treated. Of the 98 patients wi abnormal radiographic studies, seven underwent C scanning alone, 23 underwent myelography alone, ar 68 underwent both tests (Table 9).

Table 7
Number of Patients Not Satisfying Criteria

Met all 9 Criteria	41
Met 8 of 9 Criteria	31
Met 7 of 9 Criteria	23
Met 6 of 9 Criteria	2
Met 5 of 9 Criteria	2
Met 4 of 9 Criteria	1
Total	100

Table 8
Number of Patients Not Meeting Each Criteria

1) Leg (vs. buttock) pain	6
2) Radicular distribution	7
3) Straight leg raising + $\leq 50°$	22
4) Two of four signs present	42
5) CT or Myelogram supports DX	2
6) Symptoms present ≥ 3 months	10
7) At least 2 weeks of bedrest	1
8) Failure to respond to conserv. RX	0
9) No medical problems	6
Total	96

Table 9
Breakdown of Criterion 5
Number of Patients with Positive CT or Myelo

CT positive only	7
Myelogram positive only	23
Both positive	68
Neither positive	2
Total	100

Eighty-six of the patients had none of the contraindi cations listed in Table 2. However, fourteen patient each had a single contraindication. There were also si women in which the sedimentation rate (ESR) was nc measured. The individual contraindications, and th number of patients with each, are presented in Table 1(All three of the patients with severe neurological deficit were advised to undergo laminectomy, but refused. Sur prisingly, two of the three did well, but the third wa considered a failure of treatment. Six patients wer treated in spite of spinal stenosis or lateral recess syn drome. Two of these subsequently required a laminec tomy. Four patients had undergone previous surgery and one woman had an ESR greater than 20; however she did not experience an allergic reaction. There wer only six patients each who did not receive Benadryl o Tagamet preoperatively.

Table 10
Number of Patients
Having Each Relative Contraindication

1) Severe or progressive deficit	3
2) Sphincter disturbance	0
3) Stenosis/Spondylosis	6
4) Pregnant	0
5) Prior surgery (different level)	2
Prior surgery (same level)	2
6) Sed rate > 20 (Female)	1
Total	14

utcome—The number of patients with each outcome ore are noted in Table 11. Sixty-six percent of the tients had good or excellent results. Nine percent had r results, and 25 percent of patients were considered be failures of therapy. Of these, 14 required a lami-ctomy. In 11 of these patients the reasons for failure ere unclear, either due to lack of further diagnostic udies or surgery, or due to a short follow-up period. e remaining 14 patients had various reasons suspected r the failure. In seven of these, fragments were found later surgery. One patient had a bulging disc but no gment. One patient had lumbar stenosis and lateral cess syndrome. One patient was felt to have a neuro-thy responsible for the symptoms, and one patient s found to have a disc at another level besides the one ected. Another patient had persistent hip pain and s later thought to have primary hip joint pathology.

Table 11

Outcome Scores	10	9	8	7	6	5	4	3	2
No. of Patients With Each Score	16	30	20	4	10	7	12	0	1

Complications—There were no serious neurologic or life-threatening complications. There were no patients with anaphylaxis, infection or difficulties from anesthesia. Two patients had relatively minor complications. One had a postoperative ilius and another had postoperative groin pain of unknown etiology. One patient had persistent hip pain and later developed a hip contracture. In retrospect, his pain was probably due to hip joint pathology. Another patient was also misdiagnosed and later underwent a nerve biopsy for a probable neuropathy.

Correlation of Criteria with Outcome—In an effort to determine whether any of the criteria were predictive of outcome, each of the individual criteria was analyzed with respect to outcome. For each criterion, the outcome scores of patients failing to meet the criterion were compared with the outcome scores of the patients meeting the criterion (Tables 12 and 13). The Mann-Whitney U Test was used to assess statistical significance. In almost all cases, the outcomes were not statistically different between patients meeting or patients failing to meet individual criteria. One exception, however, was dermatomal distribution. Patients whose symptoms

Table 12
Correlation of Outcome with Certain Criteria

Criteria	Number of Patients with Each Score Who Did Not Meet the Specific Criterion									P Value Mann-Whitney U Test
	10	9	8	7	6	5	4	3	2	
Leg Pain	1	2	0	1	0	0	1	0	1	0.33
Radicular Disturbance	1	1	0	1	1	0	2	0	1	0.056
Positive SLR	4	4	4	1	2	2	2	0	0	0.50
2/4 Neuro Signs	9	9	8	1	4	4	5	0	1	0.46
Positive CT	3	7	3	1	5	3	2	0	0	0.24
Positive Myelogram	1	0	4	0	1	2	1	0	0	0.079
Symptoms > 3 Months	3	4	1	0	1	1	0	0	0	0.057*
All Patients	16	30	20	4	10	7	12	0	1	

*In all cases, the patients who met the criteria had better outcome scores than those who did not meet the criteria, except for those patients who had symptoms for less than three months. These patients had better outcomes than those who met this criterion.

were in a dermatomal distribution had better outcomes than those whose symptoms were nondermatomal (U = 208, P = 0.056). In addition, patients who had positive myelograms did better than those who did not have positive myelograms (U = 292.5, P = 0.079). An interesting finding was that patients who failed to meet the criterion of having at least three months of symptoms, actually had a statistically significant better outcome than patients who did meet this criterion (U = 587.5, P = 0.057).

Discussion

We compared our results with those of a recent post-marketing surveillance survey of 29,075 patients reported by Smith Pharmaceuticals.[6] In most regards, our experience did not vary greatly from their report.

The demographics of our patients were similar to that of those in the survey. The male:female ratio was almost identical, 65:35 for our patients, and 64:36 in the survey. The age distributions were similar as well. However, multiple level injections were more common in Smith Pharmaceuticals' report (24%) compared to our series (15%).

The results of the audit revealed that physicians were generally following the established guidelines for chemonucleolysis. Most patients met all or all but one criterion checked. The most frequently missed criterion was that of requiring at least two of four neurological signs. The majority of patients who failed to meet this criterion did so because they were injected before these signs could develop. These patients, in general, had classical histories for herniated discs, and radiographic confirmation of the diagnosis. However, they were treated before motor or reflex signs could develop.

Few patients with contraindications were treated. However, those who did have contraindications often required later surgery, especially those with spinal stenosis. There were few complications encountered and those that occurred were relatively minor. There were no patients with the serious complications of cerebral hemorrhage or transverse myelitis recently noted in the literature.[7-10]

Of the nine criteria that were audited, three were predictive of outcome. Patients with dermatomal distributions of symptoms did significantly better than those with nondermatomal symptoms, and patients with positive myelograms had better outcome scores than those without positive myelograms. Patients with negative CT scans, or those without CT scans, however, did no worse than those with positive CT scans. Therefore, myelography seems to be a better predictor of outcome than CT scanning and should be considered for patients prior to chemonucleolysis. Surprisingly, those patients who failed to meet one particular criterion (three months of symptoms) had a statistically better outcome than those meeting that criterion.

The remaining criteria did not seem to predict outcome. In all cases, those patients who met the criteria had better outcome scores than those who did not meet the criteria, but in no case was the difference close to statistical significance (Table 12). In addition, patients with multiple level injections had lower outcome scores compared to those with single level injections and women had better outcome scores than men, but these failed to attain statistical significance (Table 13).

There were too few patients in each category who had specific contraindications for meaningful statistical analysis, except those with spinal stenosis or lateral recess syndrome. Patients with these contraindications had poorer outcomes than patients without the contraindications, but this difference failed to attain statistical significance at the 0.10 level (U = 212, P = 0.16) (Table 13).

About two thirds of the patients had good or excellent

Table 13
Correlation of Outcome With Contraindications and Various Factors

Contraindication or Factor	Number of Patients with Each Score Who Had The Contraindication or Factor									P Value Mann-Whitney U Test
	10	9	8	7	6	5	4	3	2	
Stenosis/Recess	2	0	0	0	1	0	3	0	0	0.16
Mult Level Inject	2	3	6	0	1	0	3	0	0	0.32
Male	14	15	10	3	7	5	10	0	1	0.33
All Patients	16	30	20	4	10	7	12	0	1	

In all cases, the patients listed above (those with the contraindication, or that had the factor) had poorer outcome scores than those with which they were compared.

ults from chemonucleolysis (Table 11). The majority these patients had outcome scores of nine or ten. ose without a perfect score were typically down- ded because of occasional pain which responded to nprescription analgesics, or because of minor restric- ns of their activities. Nine percent of patients had fair ults. Twenty-five patients (25%) were considered fail- s of chemonucleolysis, and 14 of these patients sub- quently underwent a laminectomy. Failures were nerally due to retained fragments,[7] misdiagnosis,[3] or nosis and lateral recess syndrome.[3]

nclusions

. The first 100 patients treated by chemonucleolysis our institution conformed reasonably well with estab- ed guidelines.

. Three criteria studied in the audit were predictive outcome. A better outcome occurred when symp- ns were dermatomal in distribution or were present less than three months.

. Patients with no myelogram or with a negative elogram had significantly poorer outcomes than ients with positive myelograms.

. There were four minor complications, but no major mplications in the patients studied.

. Twenty-five percent of patients were considered to failures of chemonucleolysis.

. Fourteen percent of patients required subsequent inectomies.

. Failures were generally attributable to retained gments, misdiagnosis, spinal stenosis, and lateral ess syndrome.

. In 66% of patients the results of chemonucleolysis re considered good to excellent. In 9% the results re fair.

. When patients are properly diagnosed and ected, and contraindications are considered, chemo- cleolysis can be an effective treatment for lumbar disc rniation.

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Oncology/ Hematology

Lobular Carcinoma in Situ

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Introduction

Since it was described as a pathologic entity in 1941,[1,2] lobular carcinoma in situ (LCIS) has been the subject of great interest. Despite efforts to define its pathogenesis, natural history and relationships to other histologic types of breast cancer, the treatment of LCIS remains controversial. However, with understanding of the disease process and with the involvement of the patient in the decision-making process, a rational form of therapy can be chosen.

Background

LCIS histologically is characterized by the proliferation of epithelium and filling of terminal ducts and lobules by relatively uniform neoplastic cells. Mitotic figures are rare. Difficulties can arise in distinguishing LCIS from lobular hyperplasia.[3] A key criterion for diagnosis is the lack of infiltration into the surrounding stroma by light microscopy. A diagnosis of LCIS is usually made after an excisional biopsy for otherwise benign breast disease. Palpable abnormalities prior to an excisional biopsy are secondary to the benign process such as fibrocystic disease. Mammographic abnormalities with stippled or linear calcifications have been noted in less than 50% of cases of LCIS. Correlations with pathologic specimens have shown the calcium to be separate from the neoplasm. In addition, similar abnormalities can be seen in association with benign disease in the absence of LCIS.[3] The average age at diagnosis is 45 years and is approximately five years less than the average age at diagnosis of infiltrating carcinoma. Despite the marked tendency for diagnosis at a younger age, the disease is not limited to premenopausal women and has been observed into the eighth decade of life.[6] There are no clear etiologic factors and no clear relationship has been observed with a familial history of breast cancer,

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prior pregnancy, and use of exogenous hormones.[5]

A feature that has been noted by several investigators and has affected therapeutic approaches is the propensity of LCIS toward multicentricity and bilaterality. Rosen found that 28 of 50 breasts removed for LCIS had residual foci of LCIS. An additional 6% had infiltrating carcinoma.[4] An increased incidence of carcinoma in the contralateral breast has also been found. Urban[7] reported that blind biopsies of the contralateral breast were positive in 30% of cases with LCIS. The vast majority of lesions found on biopsy were noninfiltrating lesions. Approximately 3% of contralateral biopsies yielded invasive cancer; this was not appreciably different from the incidence of invasive disease in patients with infiltrating carcinoma in the ipsilateral breast.

Natural History

After recognition of LCIS as a pathologic entity, initial interventions were based on an assumption that the lesion was malignant or at least a preinvasive form of malignancy. Therapy was appropriately aggressive with at least a simple mastectomy and sometimes a modified radical or radical mastectomy. Retrospective reviews identifying patients who had no specific therapy have led to a better understanding of the natural history of LCIS. The results are surprisingly consistent and will be summarized.

Anderson[11] reviewed his experience and summarized the available literature up to 1977. Average follow-up in the cited series varied but was approximately 10 to 15 years. Of 172 women without previous breast cancer and a diagnosis of LCIS treated with excisional biopsy alone, 15% developed subsequent invasive ipsilateral carcinoma. Of 204 patients with the diagnosis of LCIS and the contralateral breast intact, 9.3% developed invasive contralateral carcinoma. In a group of 228 patients at risk for developing carcinoma (including some patients treated with ipsilateral mastectomy), the incidence of subsequent metastatic breast cancer was 5.7% with 4% of the patients dying because of metastatic disease. These patients were not treated or followed uniformly and the average length of follow-up was relatively short.

Rosen reviewed the Memorial experience with LCIS treated only with biopsy with an average follow-up of 24 years.[5] The incidence of subsequent ipsilateral invasive cancer was 17% and that of subsequent contralateral invasive cancer was 13.5%. For patients with subsequent carcinoma for whom information on axillary nodal status at the time of mastectomy was available, nodes were positive in approximately 50% of both ipsilateral and contralateral tumors. Of 32 patients who developed subsequent carcinoma (including four biopsies with noninvasive carcinoma [either LCIS or intraductal carcinoma]), 16 died of metastatic disease.

Haagensen reviewed the experience at Columbia of 211 cases of LCIS without coexisting invasive cancer.[6] After a mean follow-up of 14 years, carcinoma (invasive or intraductal) developed in 9.8% of ipsilateral and 9.2% of contralateral breasts. The relationship of interval development of subsequent carcinoma was also examined. There was a cumulative risk of development carcinoma with increasing interval from diagnosis LCIS with the risk reaching 22% for the ipsilateral bre and 15% for the contralateral breast after 25 years.

McDivitt[12] has studied the same question in a series 50 patients with LCIS. The cumulative risk of invasi cancer increased with interval from diagnosis and w 35% for the ipsilateral breast and 25% for the contrala eral breast after 20 years of follow-up. McDivitt's seri contains fewer patients than Haagensen's and the resu can be questioned because of the small number patients followed beyond ten years.

In summary, these studies support the view that the is a definite risk of developing invasive cancer with cumulative risk that increases with length of follow-u In addition, the risk of subsequent cancer is remarkab similar for both breasts. It should be pointed out, ho ever, that the majority of women never develop invasi cancer.

In order to further understand the natural history LCIS, one can examine the histopathologic features subsequent breast cancers. The incidence of infiltratin lobular carcinoma as a percentage of all invasive brea cancers in the general population is approximately te percent.[9] The histologic type of invasive breast canc subsequent to LCIS has not been uniformly reporte however, the incidence of infiltrating lobular carcinom as a percentage of subsequent invasive tumors in thre series was two out of ten (20%),[12] 18 out of 33 (39%),[5] an 22 out of 29 (75%).[13] Thus, there appears to be a diffe ence in histologic subtypes of subsequent invasiv cancers in patients with LCIS compared with the popul tion in general, with an increased incidence of infiltra ing lobular carcinoma. This difference has been used evidence of progression of untreated LCIS to invasiv lobular carcinoma. Other authors, however, have que tioned the scientific validity of this claim.[16]

The high incidence of multicentricity and bilateralit which exceeds the incidence of subsequent invasiv lesions, raises doubt as to the true malignant potential LCIS. This, coupled with the rarity of LCIS in the postm nopausal patient, raises the possibility of involution LCIS with changes in hormonal milieu. Although ther are no data on the hormone receptor status of LC lesions, 90% of invasive lobular carcinomas are estroge receptor positive.[14] Although one can argue the rel tionship between invasive lobular carcinoma and LCIS, is plausible that LCIS lesions that are estrogen recept positive and remain under hormonal influence coul involute with changes in hormonal milieu. Perha other lesions persist despite menopause and retain th potential for development of invasive disease.

Treatment

Because of belief in the malignant potential of LCI most early authors recommended at least total maste tomy. With this approach there has been virtually 100 "cure." There have been rare instances of local recu rence and a few cases of positive axillary nodes; how ever, it is not clear that these cases were not associate

th invasive disease elsewhere in the breast. Results of e natural history studies cited above have been inter-eted differently and recommendations for treatment ve subsequently included bilateral mastectomy, ipsi-teral mastectomy with contralateral biopsy (and mas-ctomy if positive), and careful observation after cisional biopsy alone. Bilateral simple mastectomy, hich is the definitive solution, has received less than nthusiastic support, and the main controversy has cen-red on observation versus immediate mastectomy.

To perform an ipsilateral mastectomy alone ignores e fact that both breasts are at risk and the risk is nearly qual. The utility of blind biopsy in the opposite breast is nclear. Rosen[15] reported his experience with LCIS sing the results of biopsy of the contralateral breast as n indication for mastectomy or observation. With rela-vely short follow-up there appears to be a decreased cidence of subsequent invasive cancers in patients ith benign biopsies. As the authors mentioned, this formation is preliminary and it needs confirmation in a rospective study.

Recommendation for careful observation alone cknowledges that the risk of subsequent invasive dis-ase is not limited to the ipsilateral breast and that the ajority of women never develop invasive disease. here are no prospective series available that define the bility of careful follow-up to alter the risk shown in arlier natural history studies. The addition of routine ammography potentially allows identification of sub-equent invasive tumors at an earlier and more curable age.[17] Observation alone requires that follow-up be elong and both the physician and patient must be illing to accept responsibility for this. However, this eems to be a valid approach to management.

Bilateral subcutaneous mastectomy with immediate mplantation has not been well accepted because of the heoretical risks of developing invasive disease in resid-al breast tissue. If LCIS is a marker of risk for developing nvasive disease and if the risk is also proportional to the mount of residual breast tissue, then subcutaneous astectomy which removes approximately 95% of reast tissue should lower the incidence of subsequent isease. This approach is perhaps also psychologically nore appealing to many women. Attention to careful ollow-up would not be avoided by this approach, but he use of silicone implants eliminates the ability to ollow patients with mammography.

At the present, no definite consensus exists as to treat-ent of LCIS. Any recommendation must take into con-deration the available information regarding the atural history of the lesion and the ability of therapy to ter this. LCIS is found in a young population and con-deration must be given to the emotional and psycho-gic impact of mastectomy. This certainly has to be eighed against subsequent invasive disease, the small ut real risk of subsequent metastatic disease, and also he psychological effect on the individual patient who ust live with the known risk if a decision is made to ollow the patient after excisional biopsy alone. How-ever, a decision for management of the individual patient can be made after a frank discussion between patient and physician in which the various options are presented.

Future Prospects

Considerable knowledge of the characteristics of LCIS has been achieved since its original description. However, as typified by the range of therapeutic approaches suggested, much remains to be learned. The major insight into the pathophysiology from demographic studies is the marked tendency for diagnosis in premenopausal women. Further characterization of the relationship between LCIS and hormonal status needs to be done. Availability of monoclonal antibodies for estrogen receptor proteins should facilitate this greatly. If one could substantiate the suspicion of LCIS as a hormonally sensitive lesion, then efforts could be directed toward altering the hormonal milieu either surgically or medically with antiestrogens. This is purely speculative. Considerable work remains to be done evaluating present forms of therapy. Rosen's preliminary work with selective contralateral mastectomy based on contralateral biopsy needs to be verified. This approach, however, does not obviate ipsilateral mastectomy. A logical extension would be to attempt to select patients with ipsilateral mastectomy by doing a similar wide excisional biopsy and selecting mastectomy or careful follow-up depending on whether additional disease was found. Finally, the approach of careful follow-up with frequent examinations and annual or biannual mammography needs to be evaluated prospectively and its ability to alter the natural history of women with LCIS ascertained. Until this work is done, LCIS and its therapy will remain controversial.

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Ophthalmology

Ophthalmic Plastic and Reconstructive Surgery

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Editor:
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Abstract

Ophthalmic plastic surgery is a relatively new subspecialty in ophthalmology. This subspecialty deals with diseases of the eyelids, lacrimal apparatus and of the orbit. Disease of the eyelids is the major emphasis of this communication. Several pathologic entities are discussed.

Key Words: Ophthalmic Plastic Surgery, Ectropion, Entropion, Dermatochalasis, Blepharoplasty, Chalazion.

Ophthalmic plastic surgery is a subspecialty of ophthalmology that is now well established in the medical community. The areas concerned in this discipline are outlined in Table 1 with the main ones being the eyelids, the lacrimal apparatus and the orbit. Since diseases of the orbit are quite rare, I will place emphasis on disorders of the eyelids and tear drainage.

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Anatomy

The eyelids are composed of four main layers. The outer two include skin and muscle and the inner two include the tarsal plate and conjunctiva. The tarsal plates are tough and fibrous and give rigidity to the eyelids. Within the tarsal plates are many oil-producing glands which secrete via their ducts into the tear film. There are several muscles in the eyelid which are important for proper functioning and position of the eyelid. The eyelashes are present in two rows in the upper and lower lids. The eyelids are important in protecting the eye, thus any alteration in the eyelid function can seriously affect the health of the eye. (Figure 1).

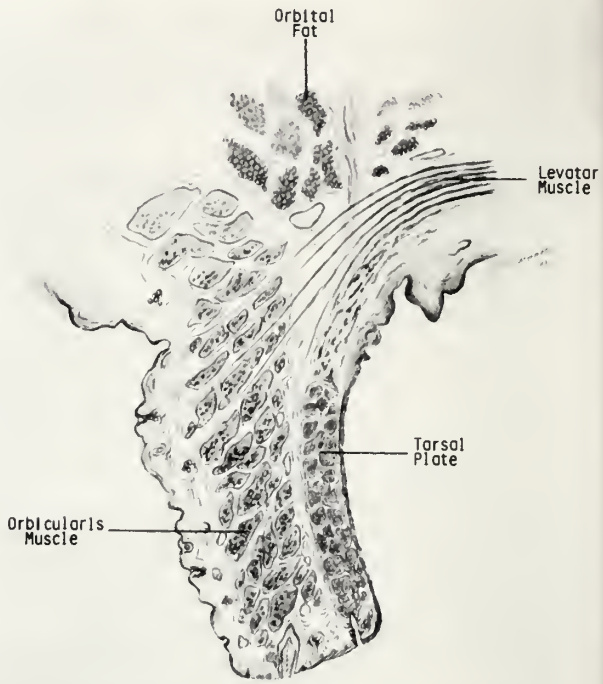


Figure 1
Eyelid anatomy

Inflammatory Conditions

A. *Blepharitis*: Seborrhea of the eyelids can result in chronic flaking with scales causing irritation of the eye. A bacterial infection usually coexists. Treatment usually consists of lid scrubs and antibiotic drops. (Figure 2).

B. *Chalazion*: Infections of the eyelid glands may cause a nodule to develop in the eyelid. This is usually treated with a minor surgical procedure. (Figure 3).

C. *Allergic Dermatitis*: External irritants and allergens may cause itching, then drying and ocular irritation. Cosmetics are often allergenic, even the so-called "hypoallergenic" brands. Certain ocular medications are common offenders. Avoiding the irritant and treatment with a short course of steroid drops will usually improve the condition. (Figure 4).



Figure 2
Blepharitis and notice scales



Figure 4
Allergic blepharodermatitis



Figure 3
Chalazion

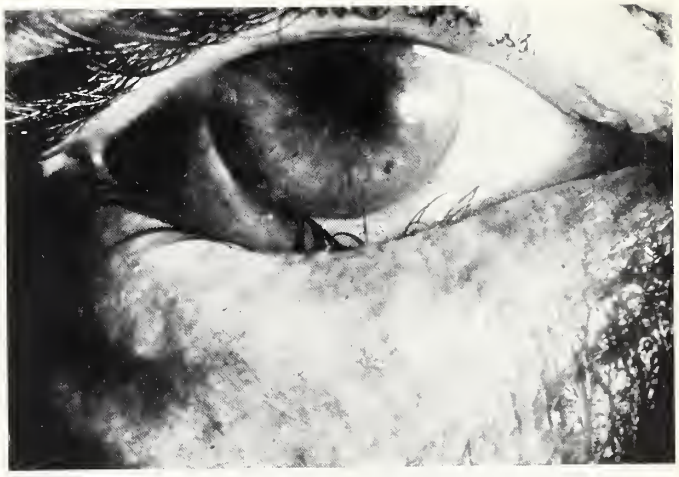


Figure 5
Entropion: lower lid totally inverted with lashes striking the cornea

Positional Abnormalities of the Eyelids

A. *Entropion*: With age, the skin relaxes and certain eyelid structures become lax and dehiscent, and the lid-eye apposition becomes affected. A combination of these changes allows the eyelid to tilt inward so the lashes strike the eye. Entropion may occur in younger people as well, however, it is usually secondary to scarring, burns or certain disease states. Management of entropion is usually surgical. Many surgical procedures are available for the correction of this problem. (Figure 5).

B. Ectropion: When the same conditions exists in conjunction with laxity of the eyelid tendons, the eyelid flips outward. The eye is no longer adequately protected and conjunctival or corneal scarring, infection, or ulceration may develop. Because eyelid position is important for proper tear drainage, tearing is usually present. Cicatricial ectropion may be produced by vertical shrinkage of the skin, either due to senile shrinkage, prolonged exposure to the sun, burns or trauma to the skin. Surgery is indicated if there are symptoms or if there are corneal-conjunctival changes. (Figure 6).

A. *Trichiasis*: Misdirected lashes may be congenital or acquired. The lashes tend to strike the cornea and produce irritations, erosions, or ulcerations. Cryotherapy is the newest method of treating this disorder. (Figure 7).

D. *Lid Retraction*: Thyroid disease is the most common cause of this problem. The patient exhibits a "startled" appearance. In addition to having a cosmetic disfigurement, corneal exposure problems are likely since the eyes do not close properly. Various surgical techniques allow the patient to achieve a more normal appearance. (Figure 8).



Figure 7
Trichiasis: inturned lashes upper lid causing corneal ulcerat



Figure 6
Ectropion: lower lid turns outward



Figure 8
Lid retraction in patient with thyroid disease.

E. *Ptosis*: A droopy upper lid may not only be a cos-
etic problem, but may also impair vision. In an infant,
osis may produce an "amblyopia exanopsia" whereby
e prolonged decreased visual impact may become
rmanent. One may be born with a ptosis or it can
cur later in life. There are several degrees of ptosis and
ny different types of ptosis. The specific type of surgi-
procedure depends upon the amount and type of
osis. (Figure 9).

epharoplasty

With age, eyelid tissues become lax and the removal of
n with or without bulging fat from the eyelids may be
rformed for cosmetic reasons or to relieve certain
nptoms. The excessive skin, called "dermatochalasis"
y cause difficulty seeing, if severe, irritation of the eye
hes and a "heavy feeling." The procedures are usually
ne under local anesthesia. (Figure 10).

mors of the Eyelids

There are many conditions, benign and malignant,
ich may affect the eyelids, but one must always con-
er the diagnosis of basal cell carcinoma (BCC) which
counts for 20% of all lesions and 90% of all malignant
elid lesions. Basal cell carcinoma may appear as
dules or may be superficially infiltrating. Surgical
section with reconstruction is the treatment of choice.
gure 11). Common benign eyelid growths also include
pillomata (Figure 12); Xanthalesma (Figure 13); and
taneous horns (Figure 14).



Figure 10
Dermatochalasis: excessive upper lid skin.



Figure 9
Ptosis



Figure 11
Basal cell carcinoma



Figure 12
Papillomata



Figure 14
Cutaneous horn

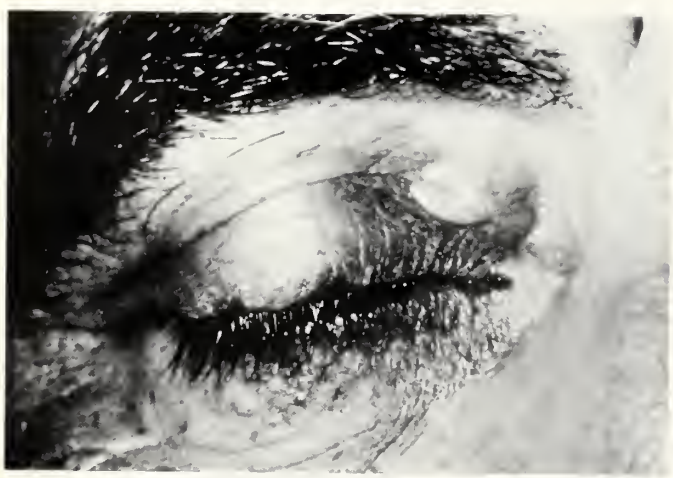


Figure 13
Xanthalesma



Figure 15
"Sunken" appearance of left eye years after enucleation

ocket Reconstruction

After enucleation (where the eye has been removed) ie ophthalmic plastic surgeon works closely with an cularist (a technician trained in the fabrication of pros- etic eyes) to achieve the most satisfactory cosmetic esults. The ophthalmic surgeon also works in conjunc- on with the ocularist in patients with deformed sockets r poorly fitting prostheses in order to produce satisfac- ory function and cosmesis. It is not unusual to have a sunken" appearance several years after enucleation. his results from atrophy of orbital tissues (Figure 15). econstructive surgery will help achieve a much nproved appearance.

piphora

Tearing may be due to an overproduction of tears, or y insufficient drainage. In most of these patients, the nderlying cause may be elucidated and effective treat- ent undertaken. Treatment may include tear substi- tes, lid tightening procedures, or dacryocystor- nostomy. Dacryocystorhinostomy is the surgical rocedure of choice for alleviating a blockage in the tear rainage system.

Table 1
Oculoplastic Surgery Areas

1. Lacrimal System
 - tearing
 - lacrimal gland
 - lacrimal excretory pathways

2. Orbit
 - trauma
 - thyroid eye disease
 - infections and tumors
 - reconstruction
 - sockets and prosthetics

3. Eyelids
 - inflammations
 - dermatitis
 - blepharitis
 - conjunctival scarring
 - cysts
 - styes
 - chalazia
 - other cysts
 - tumors
 - positional abnormalities
 - entropion
 - trichiasis
 - ectropion
 - ptosis
 - lid retraction
 - cosmetic
 - blepharoplasty
 - brow lift
 - epicanthal folds
4. Globe
 - evisceration
 - enucleation
 - exenteration

Psychiatric Disorders

Errata

In the December, 1984 issue of *Arizona Medicine*, page 808, an error was made in the article, *Angel Dust: Medical and Psychiatric Aspects of Phencyclidine Intoxication*, by Burke Robinson, M.S., IV. The second paragraph on page 808 should read as follows:

Prevalence

PCP is easily synthesized by any "backyard chemist" from peperidine and cyclohexane.[6] It is therefore easily accessible for "dealers." It also is potent in small amounts and therefore easy to conceal. The most common way it is used is by sprinkling on marijuana or oregano and then smoking it, with response in one to five minutes.[5] It is amazing how PCP can end up in street drugs when least expected. In one study cited by the *New England Journal of Medicine*, 237 samples of street drugs were sampled for PCP,[7] and of these 184 (77%) contained PCP. It has been sold under different names such as LSD, Cocaine, PCP, Horse, Hog, etc. Because of its high prevalence, it is being claimed by many as a "nationwide epidemic,"[6] and the DEA has recognized it as second to heroin in the need for control.[5]

On page 809 of the same article, under the heading **Diagnosis**, last paragraph of the page, the (14%) should have been a reference number. The correct sentence is: Of 145 blood samples, 63 (43%) were found to be positive for PCP.[14]

Radiology

Answer on page 93

Case of the Month No. 75

Daniel Glick
Jonathan M. Levy, M.D.
Thomas E. McCauley, M.D.
Joseph P. Kennelly, M.D.

Editor:
Jonathan M. Levy, M.D.

An eight-month-old boy presented with colic, abdominal distension and diarrhea. Because of findings on a plain film of the abdomen, a barium enema was performed. (Figure 1).

What is the finding?

How should this child be treated?



Figure 1

From: The University of Arizona School of Medicine (DG), and the Departments of Diagnostic Radiology (JML), Family Medicine (TEC) and Surgery (JPK), Scottsdale Memorial Hospital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

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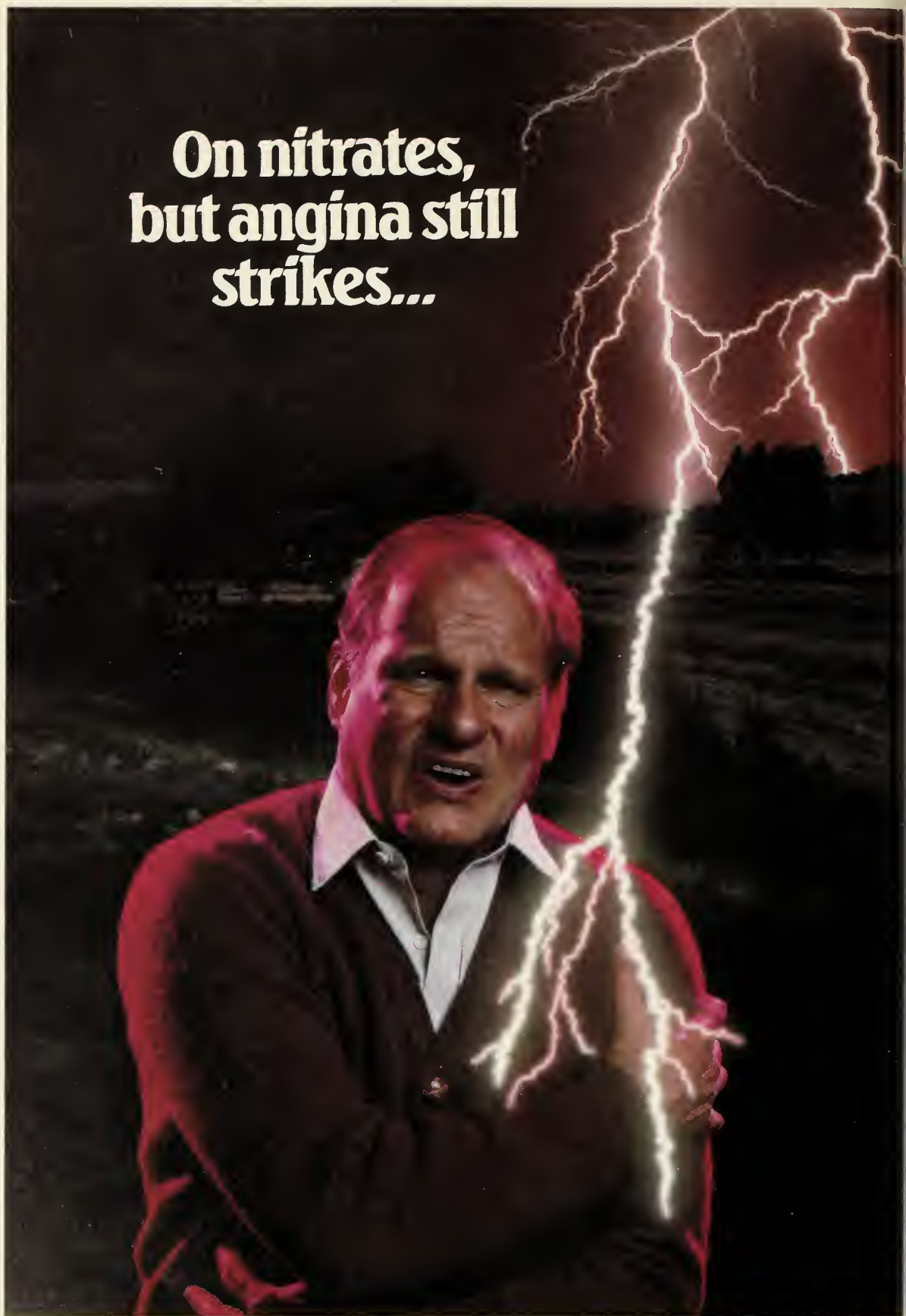
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Please see brief summary on following page.

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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D-C-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C.* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk, therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block 3rd degree (0.8%), bradycardia HR<50 min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

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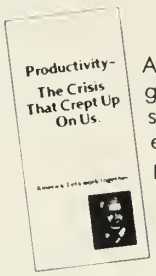
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America's productivity growth rate has been slipping badly for several years now, compared to that of other nations. And it's adversely affecting each and every one of us.

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nswer: Intussusception

The film (Figure 1) shows a mass in the cecum (arrows), ose to the ileocecal valve. In a pediatric patient, such a ass almost always represents an intussusception. This ass had been previously reduced from the hepatic exure, but could not be reduced further.

Intussusception is the most frequent cause of quired bowel obstruction in the first two years of life, nd perhaps one of the most dangerous surgical emer-encies of early childhood. The obstruction is caused by lescoping of bowel, which if not promptly reduced n lead to incarceration with impairment of venous turn. Hemorrhage, necrosis, infarction, and eventual erforation, peritonitis and cardiovascular collapse can sult. Approximately 90% of these lesions occur in the gion of the ileocecal valve, the rest being ileo-ileal and lo-colic. Males are affected three times as often as males. Although an obvious cause is usually not appar-nt, predisposing factors include Mechel's diverticu-m, cystic fibrosis, polyps, intramural hematoma lenoch-Schonlein purpura), constipation, lymphoma, arasites, hypertrophied Peyer's patches, foreign bodies nd viral infections.

Physical examination often reveals an otherwise althy infant who may present with sudden onset of roxysmal abdominal pain, with crying and drawing up the knees in an attempt to relieve the discomfort. omiting occurs, followed by a mucous, bloody "cur-nt jelly" stool. Careful (and gentle) palpation of the abdomen may reveal a "sausage" or oval shaped mass that is firm but non-tender. These signs and symptoms suggest the diagnosis. Plain films of the abdomen may show obstruction, but often are nondiagnostic.

Because plain x-ray findings are equivocal, a barium enema is needed to confirm the diagnosis. When not contraindicated by perforation, barium study is a safe and effective primary modality in reducing intussusception. Barium flows freely into the colon until it reaches the leading point of the intussusception. Here, a mass is seen, which has a convex edge. The barium may slowly pass around the lesion and produce a spiral "coil spring" appearance, which is characteristic. Slow, gentle and continual pressure of the barium column often reduces the intussusception and returns the bowel to its normal configuration. The patient should not be palpated during an attempt to reduce the intussusception fluoroscopically. If hydrostatic reduction is unsuccessful, surgery is indicated. Our patient was operated on, and is presently doing well.

Early diagnosis and treatment of intussusception is imperative, since prognosis is related to duration of the lesion prior to correction. If untreated, intussusception is almost always lethal. However, with early detection and reduction, prognosis is excellent, with recurrence in only two to four percent of barium enema reduction and one to two percent in patients who come to operation.

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Surgery

reservation of the Lower Extremity In the Treatment f Massive Pressure Ulcers

ul D. Holman, M.D.

itor:
ck A. Friedland, M.D.

stract

With current surgical techniques it is often possible to eserve rather than to amputate the lower extremity er extensive debridement of massive pressure ulcers. ve such cases are presented, including three cases of emipelvectomy with limb preservation. Results are mpared with those of amputation. In addition to the ychological advantage to the patient, potential future ps are preserved.

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Introduction

From the earliest reports, attention has been directed toward prevention of pressure ulcers through nursing measures and treatment by local care of the wound.[1,4,33,40,41] J. S. Davis[15] demonstrated the repair of scars after bedsores in nonparalyzed patients. It was not until the antibiotic era that reports of successful direct surgical repair of pressure ulcers appeared.[24,36,52]

The first and still the most important principle is to debride the wound of all infected tissue. This is more important than antibiotics in treating sepsis in these

patients,[20] and helps to prevent renal amyloidosis, a major cause of death in spinal cord injured patients.[28] Kostraluba and Greeley,[35] and Bors and Comarr,[3] reported better results where the boney promontory was excised. Conway,[11] achieved better wound closure with a skin and subcutaneous tissue flap over the ulcer with the flap donor site repaired by a skin graft. Moving local muscle into the wound was reported by several authors,[3,7,12,21,35] and popularized by Ger.[23]

There are many muscle and musculocutaneous flaps available for the repair of pressure ulcers.[37,38,44,54] Attempts are being made to bring sensation into anesthetic areas by means of innervated flaps, as suggested by Weeks and Brower,[51] and attempted by Dibbell,[17,18] and Daniel.[14]

During this period of development of surgical procedures, techniques of management of the patients have also evolved: [7,13,24,30,34,46]

Limb Amputation versus Limb Salvage

While such techniques are usually very effective, the end-stage pressure ulcer in the paralyzed patient remains one of the most formidable problems in reconstructive surgery. The patient may present himself in a severely anemic, febrile, and malnourished state with local tissue infected beyond repair and nearby tissue scarred from previous attempts at surgical correction.

Wilms,[53] suggested amputation of the lower extremities in paraplegics to heal pressure ulcers and to help in preventing future ones, although he did not operate directly upon the ulcers themselves. Others have amputated the lower extremity and repaired the pressure ulcers,[12] or utilized the soft tissues of the extremity remaining after amputation to repair these defects.[2,5,9,22,26,51]

Extensions of amputation procedures have led to the techniques of "translumbar amputation,"[16] or "hemicorporectomy."[42] In Harding's series,[29] only 2.3 percent of paraplegics considered consenting to amputation. Chase and White,[9] discussed the advantages and disadvantages of bilateral high thigh amputations in paraplegics, suggesting that prostheses be supplied for psychological reasons. Sometimes amputation is still the procedure of choice for extremely large wounds, for severe joint contractures, for massive infections or gangrene of the extremity, or where all other available flaps have failed.

While amputation of the leg provides the ultimate flap, it is not always a definitive flap. Problems with wound healing and recurrence of the pressure ulcers do occur. In Spira and Hardy's series,[48] of five paraplegic patients with high thigh amputations, *all* required further surgery for recurrence. Ravitch and Wilson,[43] in performing hemipelvectomies for various conditions, had significant wound problems in 10 of 36 procedures. In reporting on 100 hemipelvectomies with amputation for malignant disease, Higginbotham[31] had a 75 percent rate of wound complications. In the series of Royer,[45] 82 percent of patients treated with a total thigh flap for pressure ulcers needed further surgery for wound prob lems or recurrence.

Preservation of the limb when possible has bee favored by many.[7,8,26,31,32] Pressure ulcers can often b corrected without the additional deformity c amputation.

Surgical procedures have been developed for savin the leg after an "internal hemipelvectomy" for chon drosarcoma.[6,19,39,49,50] Similar techniques can be used fc infected bone. Although malignant tumors have occa sionally been reported in pressure ulcers in paralyze patients,[2,25,27,42,43,45] pressure ulcers are almost alway benign.

The concept of having an operation in reserve is par ticularly sound in the treatment of pressure ulcers.[10,13,] Operations which preserve the lower extremity also pre serve potential future muscle or musculocutaneou flaps, "banked" on the extremity. Because these patient are usually not ambulatory, muscles of the lowe extremity and of the hip region are more readily availa ble for transfer as flaps to fill the cavities left by debride ment, to bring in blood supply to aid in wound healing and to add padding to the area. Although the leg is flai the boney defect usually does not need to be recon structed as in some ambulatory patients. While preserv ing the leg does not stop spasms or restore function, i aids in the patient's balance in a wheelchair and contrib utes psychologically to a sense of wholeness.

Case Reports

Five cases are presented to demonstrate limb preser vation after resection of the pressure ulcers and larg amounts of infected bone:

Case 1:

This 25-year-old white female was admitted for treat ment of a large left ischial pressure ulcer with osteomye litis and sepsis after refusing a hindquarter amputation i another State. She had been T 9-10 paraplegic since age from transverse myelitis.

In the past she had undergone operative procedure for spinal fusion, for removal of the Harrington rods, fo hip subluxation, and for tendon releases.

In surgery the left ischium, pubic symphysis an ramus, acetabulum, and proximal femur were removed The wound was packed with Betadine-soaked gauze One week later a delayed primary wound closure wa performed. Healing was uneventful.

Case 2:

This 22-year-old white male T 10 paraplegic was mye lodysplastic. He was admitted with a severe right ischia pressure ulcer of three months' duration. Bone scan showed increased uptake of isotope in the right hemi pelvis and femur, thought to represent osteomyelitis.

He had previously undergone an ileal conduit proce dure for urinary diversion.

In our first operative procedure he underwent remo val of the right acetabulum, ischium, superior pubic ramus, and a portion of the pubis. Four days later the wound was closed by means of a gluteus maximus mus cle flap. Five days after this there was a small area o

wound breakdown posteriorly, but this was allowed to contract and the wound went on to heal well.

Case 3:

This 22-year-old white male was left hemiplegic from birth trauma and then became C 6 quadriplegic from a motor vehicle accident at age 21. He was admitted for treatment of a left ischial pressure sore and severe sepsis. Three days after admission an occult right trochanteric abscess was found and was drained.

During his first major operation the right ischial ulcer was debrided, a right partial ischiectomy was performed, and the wound was repaired with a right inferior gluteus maximus muscle flap. The left trochanteric area was debrided.

He was taken back to surgery 29 days later for resection of the osteomyelytic head and neck of the left femur, with direct closure of the wound. The right ischial wound had dehisced, and this was resutured.

At six weeks after the first operation the left thigh wound was again debrided because of infection. At eight weeks after the first procedure, additional infected femur was resected and the ulcer was repaired with a vastus lateralis muscle flap. The wounds then healed.

Case 4:

This 22-year-old Apache Indian male had been T 10-11 paraplegic since a motor vehicle accident at age 17. He was readmitted for treatment of severe bilateral trochanteric, bilateral ischial, and presacral pressure ulcers.

He had previously undergone a colostomy, a left Girdlestone procedure, bilateral intrapelvic obturator neurectomies and bilateral adductor tenotomies, excision and closure of bilateral ischial ulcers, skin graft to both hips, skin graft to the left hip, left trochanterectomy and left tensor fascia lata musculocutaneous flap, and skin graft to the left trochanteric area.

After his condition was stabilized, our first operation was the massive debridement of the five pressure ulcers, including removal of the residual trochanteric regions of the femurs, development of a left inferior gluteus maximus muscle flap, and packing of the wounds. Eight days later he underwent a right tensor fascia lata musculocutaneous flap with a skin graft to its donor site, and a left biceps femoris musculocutaneous V-Y advancement flap which was used in conjunction with the previously developed gluteus flap. He also had a suprapubic cystostomy during this hospitalization to treat a perineal urethral fistula. By the time of his discharge, all wounds were healed and he tolerated his wheelchair well.

Case 5: See illustrations

This 19-year-old black male had been T 12 paraplegic since a gunshot wound at age 16. He was admitted with bilateral ischial and bilateral trochanteric pressure ulcers and osteomyelitis.

He had previously undergone a right inferior gluteus maximus muscle flap to repair a right ischial pressure ulcer, and straight line closures of sacral and right trochanteric ulcers. The right ischial wound dehisced a week later and was resutured. This later required the additional tissue brought in by a posterior thigh flap.

This patient had also previously undergone a left inferior gluteus maximus muscle flap to repair a left ischial pressure ulcer, and further repair of the right ischial area with advancement of the posterior thigh skin.

During this admission the right ischial wound was debrided and the head of the right femur was excised. Eight days later a right partial pelvectomy and removal of additional femur was performed and the wound was repaired by a right vastus lateralis muscle flap. A postoperative wound hematoma and dehiscence required resuturing.

The left ischial and left trochanteric ulcers were repaired using a left tensor fascia lata musculocutaneous flap with a skin graft to the donor site of the flap. Within 48 hours after surgery the patient was seen lying on his left side, causing necrosis of the distal 8 cm of the flap. This was debrided in surgery and the area was repaired again with a biceps femoris musculocutaneous V-Y advancement flap, a superior gluteus maximus musculocutaneous rotation flap, and split thickness skin grafts. Additional skin grafts were required on the left leg and buttock.

By the time of his hospital discharge, all flaps had healed and he tolerated sitting up in his wheelchair for an hour at a time.

Discussion

Amputations would have precluded the successful closure of some of the wounds discussed above. Additional flaps remain available in each case.

Surgical operations to preserve the extremity in such cases are no less radical than amputation. The combined length of the external incisions alone often approaches one meter. Problems with wound healing may occur, as shown.

Blood loss from the cut bone and from the chronic scars and areas of heterotopic calcification can be massive, measuring 1200, 2000,1000, 1600, and 5600 ml for the major operation in the cases described. Most patients required additional blood transfusions pre- and postoperatively. Comparable losses of 3000 to 4000 ml have been reported in ablative procedures of similar magnitude.[43,45,48]

Hospitalizations lasted for 54, 81, 131, 199 and 147 days in these cases. This compares with an average of 117 days for the 115 patients in Hentz',[30] series and an average of 173 days for the 280 patients of Sanchez.[47]

The long-term success of these procedures still depends upon the dedication of the patient and the attending personnel to constantly avoiding excessive pressure upon these areas.

Summary

Current surgical techniques can often preserve the lower extremity after extensive debridement of massive pressure ulcers. This not only benefits the patient psychologically but preserves potential future flaps.

Acknowledgements

It is a privilege to work with Dr. Norbert Dugan and Dr. John Vivian and their patients (Cases No. 1 through 4) and staff at the Southwest Regional Center for Treat-

ment of Spinal Injury, Good Samaritan Medical Center; and with the patient (Case No. 5) and staff at Maricopa Medical Center, Phoenix. Dr. Charles Gauntt (Cases No. 1, 2, 3, 5) and Dr. Robert Johnson (Case No. 4) ably performed the bone resections. Drs. Richard Lorenz, Philip Rodriguez, and Andrew Wolin contributed significantly to the care of patient No. 5.



Figure 1
Pressure ulcers: left trochanteric, left ischial, right ischial.

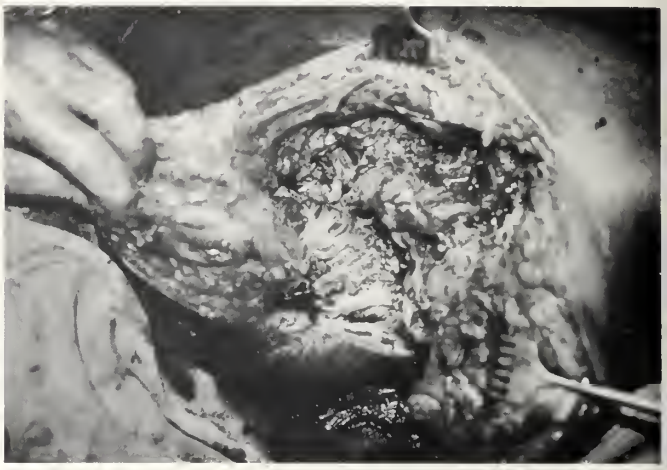


Figure 3
Right ischial/trochanteric wound after debridement.



Figure 2
Pressure ulcer: right trochanteric.



Figure 4
Right proximal femur and right partial pelvectomy specimens.



Figure 5
Right thigh (anterior view), elevation of vastus lateralis muscle.



Figure 6
Right thigh (posterior view), vastus lateralis muscle tunneled posteriorly to fill defect.



Figure 7
Right side healed with preservation of lower extremity; left side unrepaired.



Figure 8
Elevation of left tensor fascia lata musculocutaneous flap.



Figure 9
Necrosis of tip of tensor fascia lata musculocutaneous flap over left ischial area. Note skin graft from left posterior thigh to lateral thigh.



Figure 10
All flaps healed with preservation of lower extremities.

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Medical History

Extracts from the Publications of the Arizona Medical Association (Continued)

John W. Kennedy, M.D.

We continue highlighting the history om the publications of the Arizona ledical Association, beginning with the ear 1930.

ews Items 1930

Dr. John W. Flinn of the Pamsetgaaf nnatorium opened offices in Phoenix for onsultation in tuberculosis.

nnual Meeting

At the annual meeting of the Arizona ledical Association, dues were creased to $12.50. Six dollars was to go the Medical Defense Fund and two ollars for the journal. Dr. Stroud ported that travel expenses to and from edical meetings would now be allowed the IRS retroactive to 1922. The Medil Defense Fund reported there were ur separate cases of malpractice rought against Arizona physicians durg the year. Suits of three of these new ses were discussed in detail.

The State Board of Medical Examiners ported that seventeen physicians were anted a license. Among them was Dr. seph McNally of Prescott. Also Dr. Les- R. Kober, Northwestern Medical hool 1929, was to practice with Dr. Banster in Phoenix.

It was reported that there were now int medical society and hospital staff eetings in Phoenix. By combining the unty meetings with St. Joseph's Hospil Staff on the second Monday and Good maritan on the fourth Monday, there ere two instead of four meetings a onth.

Dr. R. J. Stroud, State Superintendent of Health, stated that the United States Public Health Service and the Rockefeller Foundation would provide funds for epidemiological work in the state which was badly needed and that it would not be necessary to wait for legislative action, which was always disappointing (still is).

Dr. Robert S. Flinn of Prescott, Arizona reported a series of five cases on coronary occlusions in *Southwestern Medicine*. He suggested the subject still needed further study. Dr. J. B. Herrick first put the coronaries on notice in 1912. Dr. Robert S. Flinn also presented a paper on treatment of diabetes by the general practitioner. There was an article by P. A. Surgeon Guy Faget, USPHS, on tuberculosis from the Fort Stanton Public Health Service Hospital. (Dr. Faget was one of the few officers of the Public Health Service in that era. Later he was the Medical Officer in charge of the Leprosarium in Louisiana after World War II when the new treatment of leprosy was developed.)

A case report of paralysis, probably due to Jamaica Ginger was noted. The author noted that the current news reports frequently mentioned Jamaica Ginger paralysis or Jake paralysis. The patient had progressive paralysis of the hands and feet over a period of one month, and for about a month prior to the onset of symptoms drank six to eight ounces of Jamaica Ginger at least two times a week. (Jake paralysis has not been mentioned in late years. We have more insidious and deadly drugs.)

Vernon Kennedy, M.D., a native Phoenician had returned to practice in Phoenix in 1928, and was reported to have been ill a considerable portion of that time with an duodenal ulcer. In June 1930, he had returned from the Mayo Clinic where he had received treatment.

An editorial stated, "The Gazette was purchased by the Arizona Republican of Phoenix, Arizona and the name was changed to The Arizona Republic. The medical profession is said to be pleased as the Republican refused its advertising columns to all quack remedies and surgical appliances of questionable merit." (Quacks or not, you may advertise now.)

Dr. John S. Flinn of Prescott demonstrated his versatility by accepting the appointment as chairman of a committee to investigate unemployment in Arizona by Governor Phillips. Flinn then appointed Dr. R. D. Kennedy of Globe as divisional chairman of Gila County.

At a staff meeting, Dr. J. R. Shupe reported a case of appendicitis in which a pin had perforated the appendix. Dr. E. Payne Palmer recalled a similar case he had seen eight years previously. (This reminds me of a statement by Dr. Lomax Gwathmey, a prominent surgeon in Norfolk, Virginia who had admonished young physicians to carefully document and remember unusual cases as they came along and if they lived long enough they might see a second one.)

In the July issue of *Southwest Medi-*

cine, Drs. John W. and Robert S. Flinn of Prescott were discussing pneumoconiosis, but Robert S. Flinn was also discussing Cabot cases at Yavapai County Society, March 11, 1930.

There was an announcement that a course on Endocrinology would be given in Phoenix, the registration fee was $25.00. (CME outstripped that price long ago.)

It was reported that Dr. John R. Brinkly, a quack of Milford, Kansas, was recently exposed by the Kansas City Star for his transplantation of goat testicle material into the scrotum of males who sought sexual rejuvenation. *JAMA*, Volume 26, 1930, Page 123.

An editorial in *Southwest Medicine* was entitled "Dr. Whitmore Returns Home." Dr. Whitmore had been pardoned by the President of the United States for what was believed by many to be an unjust and wrongful administration of justice in his case. He had been accused and convicted of wrongful prescription writing for controlled drugs. An editorial in the Tucson Daily Citizen of October 26, 1930, speaks the mind of Tucson. "As to the conviction itself, we may discuss it as a thing accomplished and irrevocable, after saying that few if any of us believe that Dr. Whitmore was consciously criminal in any of the acts in which the charge was based. Despite this, he submitted himself to authority in good faith and an unembittered spirit, and in that mood he was returned to the town which he loves." (He had been sentenced to Federal Prison and released). "For the hurts he has balmed, for the lives he has safely brought into the world, for the diseases he has vicariously wrestled and overcome, for the deaths which he has made easier, our jurisdiction of society owes to Dr. Whitmore something, and that something is a complete subscription to the pardon and our initials on the document which marks his debt 'paid in full.' He has been a resident of Tucson for thirty-eight years, he has been one of the most consistent friends our university has had. A former chancellor of the institution, his only son is a graduate of it. Against this there is nothing to mark up but an unconscious, profitless violation of the law, and we think Tucson is big enough to wipe that out and give this patriarchal healer a wholehearted and unreserved welcome home."

Medical Institutions in Arizona

Here the editor of *Southwest Medicine* discussed several changes in Arizona medicine and one was described as follows: "An institution better known to the country at large than it is to its nearest neighbors is The Desert Sanatorium, an Institute of Research located at Tucson, Arizona. It has undergone an amazing development since Dr. Allen K. Krause became its director, and is rapidly laying the foundation for a place of importance among the worthy institutions of the country. It is being developed for the 'diagnosis and treatment of chronic arthritis, sinusitis, nontuberculous pulmonary and upper respiratory com plaints, arterial hypertension, cardiorena insufficiency, etc.' Dr. Allen C. Sutton i the physician and Chief, and Associat Directors are; Drs. Charles W. Mills, Ma Pinner and W. Paul Holbrook."

The Grunow Memorial Clinic buildin in Phoenix was nearing completion. Th structure, built by Mr. Grunow at a cost o about one hundred twenty-five thousan dollars for the first unit, was intended t house a group of physicians and research laboratory. Dr. W. O. Sweek o Phoenix had been instrumental in devel opment of this project.

The Good Samaritan Hospital in Pho enix will enlarge its capacity by abou eighty beds. An interesting feature of thi new structure will be the excellent audit orium in conjunction with the School o Nursing, but will be available for staf meetings and general medical meetings and will seat two hundred and fift persons.

Work is being carried forward on th new Southern Pacific Hospital and Sanat orium in Tucson. A new medical buildin in Phoenix to be constructed by the Va ley Bank will be a notable addition to th city skyline and a much needed offic building for the profession in Phoenix. (contained the home office of the Valle National Bank. The floors above were fo physician and dentist offices. For thre decades it was known as the Profession Building.)

Correspondence

An Experiment With a New Format for a Scientific Session a the Annual Meeting of Arizona Medical Association

The Scientific Assembly committee of the State Association would like your involvement in an exciting experiment in continuing medical education at the annual meeting. A program has been planned to determine the benefit of making as many attendees as possible participants rather than spectators, which is too commonly their role. The data: Thursday, April 25, 1985, at the Cottonwoods Hotel in Scottsdale.

The following five perceptions are the basis for planning the new experimental format: 1) A speaker gets more education from being a participant than from being a listener or spectator, 2) A very small percentage of our members get the opportunity of the podium at a major medical meeting, so most of us remain spectators, 3) Every physician has experience in his practice which if shared with his peers would be of use to them, 4) Most physicians are not interested in attending a program which does not include topics relating to their own specialty, 5) There is a glut of very excellent "spectator" conferences available in every specialty.

Taking into consideration those five perceptions, the annual meeting will include a unique scientific session. The program will have topics that intersect more than a dozen specialties, and will involve more than 170 of our Society as speakers.

Five lecture rooms will be used to run five concurrent sessions, each having a different interest in the afternoon from that in the morning. Thus, there will be a half-day of topics in each of ten different specialties.

Critical to the new format is that each half-day session will consist of eight 20-minute papers prepared by members who are assigned to present their own perceptions and observations about some facet of an agreed-upon subject based upon their own practice experience. Each presentation will be followed by a five-minute prepared discussion by an assigned discussant, then five more minutes of discussion from the floor.

Such a program, besides covering 8 topics, will involve 80 Associatio member speakers, 80 assigned discussant and 10 moderators, for a total of 170 Ariz ona physicians. The format should als add interest for those of us who are no formally on the program, as we can lear how our peers are handling problem that we have in common.

Please seize the opportunity to reviev and present your own experience if th program planners tap you to be one o the presenters.

If the new format turns out to be a worthwhile as we anticipate, this limite experiment can be expanded in th future to include all specialties and a higher percentage of our membership.

If not asked to speak this time, pleas attend to help evaluate the format which if successful, will make you a participan in the future.

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Health Services Advisory Group: The P.R.O. for Arizona

On August 1, 1984, the review of all Medicare hospital admissions in the State of Arizona became the responsibility of Health Services Advisory Group, Inc. (H.S.A.G.). The contract to provide this service resulted from Federal legislation mandating competitive bidding to choose a single organization to replace the two PSROs which had functioned in a somewhat similar capacity in the Northern (N.A.M.E.S.) and Southern (G.S.A.P.S.R.O.) regions of the State. It is felt appropriate to provide the physicians of Arizona, many of whom care for Medicare patients, a brief history of H.S.A.G.

In 1982, the Board of Directors of N.A.M.E.S. felt it proper to expand the review activity then having to do only with Medicare patients into the private sector. To achieve this goal, H.S.A.G. was conceived in a form felt most likely to be attractive to potential purchasers of review services, a for profit corporation. It was agreed that by using the expertise acquired in the review of Medicare patients, it was likely that the desire of private and non-federal governmental agencies for guidance in the most effective use of health insurance might be met.

No government funding was available for this venture which, if successful, would bolster the private practice of medicine. Through diligent effort and the moral support of many, H.S.A.G. grew. When the Federal government legislated the end of grant supported review organizations (such as N.A.M.E.S. and G.S.A.P.S.R.O.) and the birth of statewide review (PROs) to be done by groups selected by competitive bidding, H.S.A.G. seemed a logical contender. Interestingly enough, some edge was given those bidders who had private review expertise. Other factors considered by the government in awarding the PRO contract included the goals of the bidder, the so-called objectives, and, of course, the price. All prospective bidders were cautioned regarding the possibility of being accused of illegal behavior if contact with other bidders took place.

In this setting, one of imposed secrecy and competition and with direct input from large groups of physicians impractical except through their elected representatives (the Board of N.A.M.E.S.), H.S.A.G. was selected. Had the government found neither of the bids (H.S.A.G. or G.S.A.P.S.R.O.) acceptable, it had the option of selecting a nonphysician group such as an insurance company to perform the PRO function.

The activities of H.S.A.G. will thus be to perform physician directed review of medical service for the Federal Government as well as the more than forty (40) "private" customers currently enrolled. The direction of H.S.A.G. is and will continue to be in the hands of practicing physicians with its Board composed of former Board members of N.A.M.E.S., all of whom were elected by the physicians of Northern Arizona who availed themselves of the opportunity to take part in the PSRO program some years ago. At a later date, it is likely that representatives from hospitals and the public will be asked to serve in an advisory capacity.

Assuming that profits do result from the operation of H.S.A.G., they will be used to improve the service offered. By so doing, it is believed that the best interests of both the public and the medical community will be served.

Federal Law mandates the existence of Peer Review Organizations while economic and social realities require the presence of competent groups to provide peer review of private insurance. If both are done in an even-handed knowledgeable manner, we will all benefit. H.S.A.G. asks your cooperation.

Ms. Debra Nixon, R.N.
Chief Executive Officer
Health Services Advisory Group

Editor:

In the wake of the electorate having rejected the bureaucratic options to contain health costs, the medical community has an obligation to focus attention on issues which may set the agenda for public debate.

The preventable misery of motor vehicular injury has been an ongoing concern to the community and has required a trauma care network patterned after the military combat model developed during the Vietnam era. Unlike the war experience, the community has the legislative power to stop the carnage, but so far, has lacked the will. Financial rather than humane considerations now warrant scrutiny of such preventable illness to find ways to decrease the incidence and hopefully end the problem. The remedies are legislative and educational, and must bring together coalitions of common interest from the business sector, which pays the bills, and the medical sector, which provides the care.

The time is at hand for dialogue and a working partnership in common cause to forge a union of action to stop the human suffering wrought by vehicular mayhem.

Michael S. Rifkin, M.D.
Phoenix, Arizona

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Address of the President

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(Jerry L. Hammon, M.D., Chairman)

It hardly seems possible that nearly six months have elapsed since my installation as your President. Yet in that time a number of major events have transpired—America won and wept at the Olympic games, the country re-elected a president after a campaign of political "firsts," Congress chose to renege on its health care contract to old people and a majority of physicians chose professional ethics over momentary gain. Yes, these were a few of the events and the ones I want to discuss with you today.

The 1984 Olympic games were held in a most outstanding of American cities—with none of the predicted chaos, calamity or confusion—privately financed and directed and with enormous profits. They gave us brilliantly staged opening and closing ceremonies and the outstanding performance of our athletes. The games provoked an outpouring of pride in the USA—patriotism has become fashionable again.

The medical community in Los Angeles also turned in an outstanding performance—so good a job, in fact, that the news was that there was no news at all. The closest we came to a "medical" event occurred in the last 600 meters of the women's marathon when for an agonizing five or six minutes a courageous athlete from Switzerland, her face fixed in a grotesque though determined grimace, crab-walked her way around the Los Angeles Coliseum track and finished in the first ever women's Olympic marathon run. And while "experts" in the television booth diagnosed and opined that she might suffer permanent brain damage from heat stroke, medical experts jogging alongside of her and correctly noting that she evidenced only normal physiologic responses to heavy physical exertion, allowed her to finish the race—a memory she will retain for life. Within a few hours, these sports-medicine specialists had her back in her quarters holding a press conference.

In a nearby arena, another point of medical significance was underscored. In Olympic boxing competition a knockdown counts as much as a light clean tap on the forehead—a point intoned repeatedly by Howard Cosell. Yet, as the finals were televised, it was evident that while officials may score on points, for the spectators it's punishment that counts.

To the electronic media it's the doll that count. This was brought home to r while watching television during t Olympics. Dr. George Lundberg's exc lent editorial in *JAMA* on the subject brain injury due to boxing brought on t wrath of the electronic media. No other than the President of one of t major television networks took to the a waves to suggest that the AMA's call f stringent restrictions on boxing repre ented no more than a ploy on AMA's pa to direct attention from medicine's fa ure to meet the health needs of the Ame ican people. We might wonder subsequent television sponsorship of th professional debut of the six U.S. Olymp champions during which at least one co testant was bludgeoned into a senseles helpless heap. Was this to be accepted a charitable event? More soberly, w should recognize that any effort on ou part to curtail the gloves that land th golden blows will face substantial an well financed opposition. That should nc deter us. Ours is the profession that pro tects the athlete, not the crowd or th sponsor.

California was the site for another gath ering of crowds. Ronald Reagan ende his campaign in a shopping center park ing lot—not surprising in that state. Th country elected the President to a secon term by a very convincing majority. Sage of all ideological stripes have dissecte and analyzed reams of pontifical postu lates on the meaning of the electorate mood and intent. For medicine, regard less of your favorite editorial savant' views, we face some very seriou challenges.

For four years, the AMA has generall supported most of President Reagan' reforms of government health program When he first assumed office, a severel distressed nation struggled to cope wit disastrous inflation, deepening recession worsening unemployment, interest rate that stifled industrial and economi growth. As the organization representin America's physicians, as the representa tive of responsible citizens, AMA pledge that the nation's doctors would do ou share to help solve the country's financia problems.

Often, sadly far too often, we stood alone in supporting needed cuts in budget allocations for federally financed health programs. Simultaneously we were working to translate decreased dollar allocations into a more efficient and economical system. We received little or no thanks for our efforts. Rather we find ourselves struggling to make DRG payment work without compromising the medical care of Medicare beneficiaries. Instead, we go begging for a few crumbs to assure that qualified medical students, nurses in training and neophyte medical technologists have the resources to obtain the education and training essen-

to provide first-class health care for nerations of as yet unborn American zens. We talk to deaf ears as we decry FA's ruinous program it calls PRO. th our medical schools and our basic earch scientists we worry over whether ioning of health care in this country l come in the form of truncating scien- c progress, medical education and duate training. We feel pain and sor- v but stand in frustration as more and re of the poor are shoved to the back the bus or out onto the streets.

As Mr. Stockman puts together the dget recommendations for the admin- ation's new health program reforms the nation we need to garner our ength and very clearly we need to say nough is Enough!"

We are the protectors of the public alth. We must not stand impotently by. e are responsible despite an expanding d aging population needing and ceiving steadily increasing medical ser- es, and in the face of a steadily grow- , miracle-making fund of technology. th all the change, with all the growth, s country's hospitals and physicians ve slowed the rate of inflation in hospi- costs to just slightly above that of over- increases in the CPI and have reduced e price of physician care to about half e rate of general inflation for all servi- s. We will continue those efforts cause we believe in economy and effi- ncy. But we must send a clear signal to e country that we can generate more thusiasm and cooperation from our lleagues, and indeed do a better job, thout new doses of the kinds of reme- es the Administration and the Congress ve been dispensing. General tax funds ocated to patient care constitute no re than three percent of federal penditures; education and research, s than .7 of one percent. Moreover, se line items are not anonymous sums money, they represent the lives and ll-beings of very real men, women and ildren.

Probably the most horrendous event r medicine of the past five months came nen Congress decided it no longer has e same obligation it once had to the tion's old people. The news came in nendments to Medicare contained in e budget reduction act adopted in July. o much for the contract we signed with u in 1965," the members said through eir actions, "we have new rules."

In my view, this hastily conceived tion, developed behind the closed ors of a conference committee, with opportunity for public comment or bate, represents one of the most cal- us and cynical actions ever adopted by y Congress.

Callous, in that the Congress reneged n an old promise while making a new, d false promise to the elderly. The false omise is that the government will save money for the elderly and the disabled. In fact, by freezing reimbursement (not fees, reimbursement) government picked the pockets of Medicare patients for approximately two billion dollars of increases in charges that had already accumulated between June of 1983 and July of 1984. Additionally, they promised that they would honor some unspecified increase in prevailing charges that would be allowed between June of 1984 and September of 1985.

Talk about your shell games—over 80% of physicians already selectively accepted assignments—altogether, many have accepted assignment for 100% of their patients since Medicare was adopted. Over half of all bills are on an assigned basis with the physician frequently ignoring the 20% co-pay for those in need of help. Now comes the Congress with a straw man to divert attention from its own profligacy. No matter what they call it, or how they cut it—20% of any increase—the 20% co-pay—is still more for the patient to pay. The Medicare patients have been had, and worse they don't seem to realize it. Still worse, some of the organizations professing to represent them compound the problem by repeatedly misinforming them that *now* the feds will pay the full fee on assigned claims.

Even more callously the Congress capriciously has attempted to create two classes of patients—those of "participating and non-participating" physicians—thus producing extraordinary anxiety among Medicare recipients and provoking a state of conflict and friction between the nation's elderly and disabled and the doctors from whom they seek their medical care.

And, wrapped in a cloak of pure and noble intent, government offered a bribe—Congress assumed that most American physicians would give up their rights and obligations to independently deal directly with their own patients on an individual basis, and instead would bank on the promise that at some future date that same Congress would pay them more. Wrong. We note with considerable satisfaction that the overwhelming majority of our members opted to continue to deal with their patients one by one and meet their needs on an individual basis.

As you know, the AMA and several other plaintiffs, including some Medicare beneficiaries, have filed a suit in Federal Court to overturn what we consider to be an unconstitutional abridgement of fundamental freedoms of both patients and their physicians. We will pursue this litigation vigorously.

We will also ask the next Congress to reconsider the action, to see that it is not in the best interest of the people who are dependent on Medicare for payment of medical bills. It does not represent sound public policy. Yes, Medicare needs basic reform if it is to continue to provide assistance to those over 65 or disabled who need help in paying for their care. This needs to be pursued in a calm and rational fashion, not in an environment of crisis. We will offer our advice and assistance. Your response to several reports and resolutions before this House will help provide direction for that effort.

One concept that deserves very careful evaluation is the notion of a private Health Care "IRA." This simple idea is in fact the basic mechanism already in use and working well in one country—Singapore. There, all workers have their own tax exempt health bank account which they may use to pay for medical care. We can sometimes find possible answers in unexpected places.

Even as we strive to resolve these problems, we face additional challenges or better put, we have some challenging opportunities.

Although the Congress may have created an environment of uncertainty for the elderly, we must, by our actions, demonstrate our continued commitment to care for them. Rather than taking solace in the knowledge that on average people over 65 are self-sufficient, let us recognize that averages don't help the person on the low end of the curve. Large numbers of social security recipients have *no* other income, sixty percent are women, forty percent live alone, many with very little additional resources. For them, Part B premiums already consume a substantial amount of their discretionary dollars. The very least we physicians can do is inquire whether or not they can afford a usual fee or even the twenty percent co-pay. And we must do the same for non-Medicare patients. We can count on our members. The overwhelming majority of them have frozen their fees voluntarily. We must urge them to continue. Though the Congress may have lost its sensitivity, let us not abandon ours.

The public takes very close note of our actions. We must prove ourselves over the long run. The public is skeptical of our motives. Not all of us have been above reproach. Take home your copy of Physician and Public Attitudes on Health Care Issues. It is in your "not for official business" folder. Make our colleagues aware that fewer than three of ten people believe that doctors charge reasonable fees, that no more than two of ten think doctors *are* trying to hold down costs, that almost four of ten harbor the idea that doctors act as though they are better than other people and only the same number believe we spend enough time with them. Simultaneously, the overwhelming majority of those polled still give their own physicians high grades in each of these same areas. The implications of these data? Several: One, a hostile constituency begets hostile legislators and public officials and does spill over into the attitudes of those making decisions in the

private sector as well. Two, individual physicians, while enjoying the confidence of their own patients, still have the opportunity to reverse this erosion of public confidence. The need to do so is urgent.

Finally, permit me a few moments to dwell upon my favorite theme—our commitment to our professional ethic. My inaugural address was published in the August 10 *JAMA*. I have received over three hundred letters from all over the country, from doctors whom I have never met, to whom I have never spoken—all thanking me for giving them the inspiration and the courage to rededicate their professional lives to the fundamental ethic that led them to a career in medicine in the first place—caring for people. This is a spark that can become a prairie fire with a dedicated leadership fanning it at every turn.

In recent years, with increasing frequency, we have observed initial descriptions of major scientific achievements described not in scientific journals but on the pages of the public press. All too often some of these reports have proved premature at best, others brashly overblown. They seem to have served no purpose other than personal agrandizement for the investigator while provoking unfavorable hopes, raised expectations for many.

We've had Barney Clark and Jarvik II with a grand circus played before millions until the day he died.

And then came Baby Fae. And with her TV debut and organized press conferences came daily debates by experts who never saw this infant. Debates about the medical facts and of equal import, the ethical concerns surrounding her surgery.

Though many have, I do not question the ethics of the xenograft itself. Nor have I any question about whether or not adequate search had been made for a human baby heart or the feasibility of alternative surgery. With or without such a search, there would have come a day when no such option existed and the go or no go xenograft decision would have been made.

Similarly, one must assume that the parents had made a fully informed consent—no promises (only hopes) and for legal reasons did consent to photographs including video. Doubtless without that the hospital would not have allowed the surgery to be performed, much less have paid for it. I do wonder if the agreement included providing the parents with video tapes of their daughter's nightly performance on the 6:00 news—greeting 100 million strangers from her tiny bassinet.

And I wonder about other ramifications. Who benefits from this public display? Our professional code says that what we do should be for the patient. Does the effort to save Baby Fae's life demand that her privacy be thus destroyed? Would the National Enquirer or the Star have offered thousands, in the expectation of making millions, for her story under other conditions? What if the University had decided to allow the surgery to proceed only if the results were ultimately reported in an appropriate scientific journal in the usual objective, unemotional, antiseptic jargon we doctors use when we share scientific achievements with one another? Would the public's right to know have been thwarted had they had to wait four-six-twelve months until the results of this experiment were fully known?

The President of the University declared on national TV: "This now really puts our school on the map." The parents quietly asked for peace of mind. Do we applaud the University's beneficence to Baby Fae or wonder instead is this kind of public display in anybody's interest—including the University?

And to me a more profound and fundamental question: How do we respond when next the Federal Congress proposes to invade the doctor-patient priv when we have not shown some conc for Baby Fae's?

Other questions remain as well. Si June, many member and non-mem physicians have written to ask me if association will declare a commitmen the sanctity of human life. As we fo ahead in the myriad mazes posed genetic manipulation, in vitro fertili tion and surrogate parenting, as attempt to respond to suggestions t the very elderly and infirm might do e ryone a favor if they returned to dus quickly as possible, I suggest to you had best test the limits of our own co mitments to the individual.

As more and more people ask how decide where to draw the line betwe viability and nonviability, between t right to live and the right to die, I subi to you that I do not want them to ask t Congress or the Courts to decide.

There are many questions of profou importance to our future as a respect profession. Let us seek some hard-nos principled answers.

Some may not want to rise to so ma challenges. Personally, I am President those with professional pride and prin ples to which they adhere and am r leading an army of pragmatists w would rather evade the questions in t first place. The history of this associati clearly demonstrates that we can and v take the heat no matter how intense. l us let it be widely known we are here stay. If the response I have been receivi around this country is any indicator, t pragmatists have lost and the true prof sionals will prevail.

Joseph F. Boyle, M.D.
American Medical Association

Presented at the American Medical Ass ciation, Interim Meeting, Sunda December 2, 1984, Honolulu, Hawaii.

Eating Disorders — Research and Education

For some years, there has been attention to the eating disorders, anorexia nervosa and bulimia, by scientific and lay publications. This is the result of the increasing prevalence and the dramatic nature of the disorders. According to Public Health Service figures, one in 200 women have anorexia nervosa and eight million women have bulimia. These prevalent figures classify eating disorders as epidemic and a major public health problem. Both disorders occur predominantly in females; men constitute about 5% of those with eating disorders. The age of onset is usually early to late adolescence with symptoms almost always manifested by age 25 to 30. Although eating disorders occur most often in young Anglo women, the disorders occur in all cultures and in women as old as sixty years.

Anorexia nervosa is characterized by an intense fear of becoming obese, refusal to maintain a minimal normal body weight, weight loss of 25 percent of original body weight and disturbed body image. Between 10 and 15 percent of those with anorexia nervosa die from the medical complications of self-starvation. Health risks to anorexics are considerable, though generally reversible with increase in body weight. Vitamin deficiency, hypothermia, hypotension, bradycardia, renal dysfunction, growth of lanugo ha cachexia, heart failure, infections and d turbances in hypothalamus-pituita functions have been reported.

Bulimia is characterized by binge e ing followed by purging through vom ing, laxatives and/or diuretics. Wh practiced over extended periods of ti the illness becomes intractable and l threatening. While anorexics frequen come to medical or clinical attenti because of their emaciated state, there no analogous overt physical state ass ciated with bulimia as bulimia may l overweight, normal or underweight. T frequency of vomiting associated with t

rder ranges from once every two eks to 25 times a day which may even- ly lead to serious physical complica- is, as may the habitual and excessive of laxatives. Potassium depletion, uri- y infections, renal failure, epileptic ures, tetany, elevated serum bicarbo- e, hypokalemia, hypoglycemia, otid gland swelling, frequent dental ties due to enamel erosion from eme- and gastric dilation and rupture have n reported.

he apparent increase in eating dis- ers parallels our culture's aesthetic ference for thin women and our ght and exercise conscious society. nions promoting thinness as a symbol beauty and success and society's occupation with dieting by women be other factors contributing to the eased incidence. Research points to potent interaction between concern shape and the psychopathology which hes vulnerable adolescent and young men to starve or abstain from needed ries to attain thinness, beauty and cess.

Much of the current research is aimed delineating theoretically meaningful upings of anorectic and bulimic ents with respect to developmental, criptive, psychological and biophysi- factors. Several studies including se done at the Arizona Health Scien- Center support distinguishing ano- cs by pattern of dietary regulation and sumatory behavior. This approach notomizes the anorexic population continuously restrictive with regard ood intake (referred to as restrictors) binge eaters who almost always fol- low with self-induced vomiting or purga- tion to prevent food absorption. According to these studies, almost half of the anorexic population have bulimic symptoms. This unique bulimic subgroup of the anorexic population has a greater frequency of premorbid obesity, sexual experience, depression, suicide attempts, kleptomania, alcohol and/or drug abuse and life stressors than the restrictor sub- group. The complex of symptoms asso- ciated with the bulimic subgroup appears to be indicative of greater individual psy- chopathology and is linked to poorer prognosis. Bulimia is more complex to classify. Symptoms can appear in persons who are anorexic and persons who have never shown a history of anorexia nervosa.

Our program supports the view that eating disorders, both anorexia and/or bulimia, are the product of an interplay of a number of forces. To respond to the multidimensional aspects of eating dis- orders we have designed a comprehen- sive program that encompasses clinical treatment, education and research.

The eating disorder program housed within the Department of Psychiatry at the Arizona Health Sciences Center has evolved over the past three years as a result of the demands for treatment for eating disorder patients. The eating dis- order program consists of a multidisciplin- ary team including pediatric and adult physicians, dieticians, clinic coordinators, research assistants and director. After a thorough physical and psychological assessment, the team determines whether treatment is best within the hos- pital or as an outpatient.

The inpatient program takes place in the psychiatric unit. A typical stay ranges from two weeks to three months. The five major areas of focus in the hospital are: 1) individual therapy; 2) dietary and weight management; 3) behavior therapy tar- geted to eating and weight; 4) family ther- apy; and 5) pharmacotherapy. Although treatment needs vary widely and flexibil- ity is important, a program directed at out-of-control behaviors is essential.

The more commonly used outpatient program provides individual, group and family therapy.

The Arizona Health Science Center program is committed to developing an understanding of the etiological and treatment factors operating within eating disorders. To this end, educational semin- ars for medical school trainees, hospital staff and the public sector are offered. Research projects range from delineation of the nosological entities in the psychiat- ric and physical constellations of anorexic and bulimic symptoms, the determina- tion of treatment efficacy, to the preven- tion and early identification at the high school level.

It is incumbent upon medical school researchers and educators to promote further study and education of eating dis- orders. They represent a growing national health care problem.

Catherine M. Shisslak, Ph.D.
Assistant Professor
Department of Psychiatry

Louis J. Kettel, M.D.
Dean
College of Medicine

Briefly Noted



rent Perspectives II: Program chairman, Thomas E. Bittker, D., with Virginia and Dr. Clinton Merrill, Casa Grande (l to r)



**Ronald P. Spark, M.D.
1985 President, Pima County Medical Society**

Paddy R. Garver, M.D., Show Low, has been recertified as a diplomate of the American Board of Family Practice.

Earl S. Gilbert, M.D., Kingman, has been appointed to the Arizona Hospital Association's (ArHA) Board of Directors. Dr. Gilbert, a member of the Kingman Hospital, Inc., Executive Board of Directors, is one of two physicians currently serving on the ArHA Board.

Ravi Koopot, M.D., Phoenix, recently received the Ralph Estrada Humanitarian of the Year Award from the Variety Club of Arizona (Tent No. 59). Dr. Koopot was honored for his voluntary surgical work on four foreign children who were brought to Arizona for treatment of congenital heart defects.

Michael J. Krentz, M.D., has been elected to a three-year term on the Board of Directors of the American College of Emergency Physicians at the ACEP annual meeting. A member of ACEP since 1974, Dr. Krentz most recently chaired the Emergency Medical Services Committee and is a councillor and member of the Board of Directors of the Arizona ACEP Chapter.

Marc M. Lato, M.D., Phoenix, has been recertified as a diplomate of the American Board of Family Practice.

Ronald P. Spark, M.D., Tucson, was installed in January as president of Pima County Medical Society. A pathologist, Dr. Spark has been active in numerous professional and community organizations. He also serves as a delegate to the Arizona Medical Association and is a member of ArMA's public relations committee. Other new officers of the Pima County Medical Society are: **Paul D. Dempsey, M.D.**, president-elect; **Robert M. Anderson, M.D.**, vice president, and **Clifford D. DeBenedetti, M.D.**, secretary-treasurer.

On Your Behalf: Speaking Up For Medicine in the media were the following ArMA members:

Health Highlights Cable television program: Jerome J. Kastrul, M.D., Aging.

Healthbeat/KTVK TV: George F. Brown, M.D., Glendale, Skiing; Russell P. Chick, M.D., Phoenix, Weight Lifting in Adolescence; William E. Perry, M.D., Chandler, Holiday Hazards/Alcohol.

TV News: Barbara Allgood, M.D., Phoenix, Health Resolutions for the New Year, Channel 3; Neil O. Ward, M.D., Phoenix, DRGs — Channel 5. Serving as resources for print reporters were: Drs. Dennis W. Berry, Gregory L. Ellison, Richard H. Reznick, Larry Spratling, and Brendan D. Thomson.

The Arizona Medical Association welcomes the following new members:

Active Members

Coconino

David Arnold Shields, M.D.
Dermatology
710 North Beaver Street, Flagstaff
University of Iowa College of Medicine - 1975

Maricopa

Brent R. Allan, D.O.
Family Practice, General Preventive Medicine
14640 North Tatum Boulevard, Phoenix
Michigan State University College of Osteopathy - 1982

Jon S. Jacobson, M.D.
Ophthalmology
13000 North 103rd Avenue, Sun City
Rush Medical College - 1979

Alan L. Miles, M.D.
Internal Medicine
10448 West Coggins Drive, Sun City
Vrije University, Brussel - 1977

James C. Nauman, M.D.
Orthopedic Surgery
7473 East Osborn Road, Scottsdale
University of Michigan Medical School - 1965

Herbert S. Rigberg, M.D.
Obstetrics and Gynecology
6036 North 19th Avenue, Phoeni
Hannemann Medical College and Hospital - 1964

George H. Webb, III, M.D.
Obstetrics and Gynecology
10900 North Scottsdale Road No. 105, Scottsdale
Tulane University - 1976

Pima

John D. Hayden, Jr.
Hand Surgery
2001 West Orange Grove Road Suite 414, Tucson
Tufts University - 1975

Pinal

John G. Garofalo, M.D.
Psychiatry, General Practice
201 West Cottonwood, Casa Grand
Facultad de Medicina de la Univ. de Nuevo Leon, Mexico -1980

Service Member

Coconino

Thomas C. Nolte, M.D.
Psychiatry
2309 North Center, Flagstaff
Medical University of South Carolina
College of Medicine - 1976

Associate Member

Pima

Klara I. Swimmer, M.D.
Internal Medicine
3300 North Riverbend Place
Tucson
Orvosi Fakultas Tudomanyegyetem
Hungary - 1952

Resident Member

Maricopa

Thomas F. Mertins, M.D.
Family Practice - Phoenix Baptist Hospital
Indiana University - 1984

Student Members

University of Arizona

Scott R. Showalter
Cathleen J. Smith

ArMA Reports

The minutes in this section have been condensed. A complete copy will be sent to any member requesting them.

EXECUTIVE COMMITTEE

A meeting of the Executive Committee of the Arizona Medical Association, Inc., was held at the Association's offices on Friday, December 14, 1984.

Dr. Novick, Director of the Arizona Department of Health Services, updated the committee on various items of interest, including the recent advisory from the Center for Disease Control regarding inadequate supply of DPT vaccine and the measures being instituted in Arizona to allow for preservation of the supply until more is available; the continuation of efforts to formulate rigid regulations pertaining to pesticide spraying; and some of the health related legislative issues in which the Department would be involved during the upcoming session. In response to a question, Dr. Novick stated that D has the basis for a good data system b one that requires organization and coo eration from various state organizatio in providing information in order update facts and statistics.

Dr. Herbert Winograd, Chairman of t Ad Hoc Indigent Health Care Committe addressed the members in support of t action taken by that committee develop an alternative AHCCCS propos which could be proposed during the 19 session of the legislature and that the was strong feeling among the committ members that this not be a matter f debate and consideration by the House

elegates in April, as suggested by the oard of Directors. After a lengthy discus-on, it was agreed that Dr. Winograd's ovember 13th letter be placed on the nuary Board of Directors' agenda for rther consideration as well as submitted the chairman of the Legislative Com-ittee and ArMA's lobbyist for their con-deration as to how ArMA might best oceed in this matter.

TASK FORCE ON ECONOMICS OF QUALITY CARE OF THE GOVERNMENTAL SERVICES COMMITTEE

A meeting of the Task Force on Eco-omics of Quality Care of the Govern-ental Services Committee of the izona Medical Association, Inc., was eld at the Association's headquarters on iday, December 14, 1984.

Dr. Meyer presented for the members' view a statement of purpose for the sk Force, which read: "ArMA must me up with firm, workable recommen-tions directed toward preserving qual-care during the economic world of 85 and beyond," and following his brief erview of the efforts in the November ection to implement a regulatory health stem for Arizona, the members dis-ssed at great lengths the various rea-ns why the propositions failed, the role at ArMA should now assume in bring-g the medical profession back into a adership role regarding these issues, d planning strategy for formalization of firm cost containment proposal. The oup received several documents for formation and various other reading aterials to assist in studying the prob-ms and developing a proposal.

It was a consensus by the group that the ocument adopted by the Utah State edical Association, entitled "Medical are Cost Containment Proposals" was a ry comprehensive effort, which could e used as a basis for developing a like ogram for ArMA. The six areas consi-ered by Utah in its proposal were signed to specific members for study, alysis and recommendation prior to the ext meeting of the Task Force.

The analyses are to include rejection of aterial which relates only to Utah and, to the balance, an indication of mate-al which might be considered for imme-ate legislative action and that which ould be contained in an overall, ongo-g quality care containment program.

The members agreed that it would be ost helpful to have a representative om Utah attend the next meeting of the sk Force to be held January 16, 1985, to scuss their program and respond to spe-fic questions. Additionally, it was greed that staff would provide to each ember a copy of the most recent Ariz-na Town Hall report, a copy of the Pho-nix Chamber of Commerce report, as ell as the Phase II Report on the Health Policy Agenda for the American People, all of which contain pertinent information relating to health care costs and would be helpful in the Task Force's study.

LONG RANGE PLANNING COMMITTEE

A meeting of the Long Range Planning Committee of the Arizona Medical Association, Inc., was held at the Association's offices on Saturday, December 15, 1984.

The committee received and reviewed the comments of the various county medical societies to the consideration being given to changing the bylaws relating to composition of the House of Delegates, which change would result in a reduction of the number of delegates and alternates to be seated during sessions of the House, together with other supporting documentation, and it was moved and carried to request the Articles of Incorporation and Bylaws Committee of the Association to prepare for the 1985 Annual Meeting, a resolution which would amend Section 2(A), Chapter VIII of the bylaws by changing the base number of active component members required for delegate representation from "Twenty" to "Forty," incorporating in such resolution an explanation of the reasons, i.e., efficiency, cost, etc., for such recommended change.

The minutes of the joint meeting held on 10/26/84 to explore a possible reorganization of the Physician's Health Committee were received and Dr. Ward addressed the committee on the presentation made by the Oregon representatives and the fact that agreement had been reached between BOMEX and ArMA to actively pursue the establishment of a like program for Arizona.

A report was received on the recent polling of members of the Publishing Committee which has resulted in a majority vote in favor of fusing with *The Western Journal of Medicine*, and the resolution which would be forthcoming recommending such action, it was moved and carried that the Long Range Planning Committee support and endorse the resolution to be submitted by the Publishing Committee to the House of Delegates during its 1985 Annual Meeting recommending that *Arizona Medicine* joint venture with *The Western Journal of Medicine*, which allows a separate Arizona Section in each issue.

The committee was advised that the Public Relations Committee had not yet acted on this committee's earlier recommendations to consider public awareness seminars and, in conjunction therewith, Dr. Ward briefly commented on the Oregon health program which basically is a "town hall concept," reaching all segments of the community. It was moved and carried that the Oregon Health Program be referred to the Public Relations Committee for study, requesting that the Public Relations Committee define appropriate ArMA involvement and leadership potential in efforts to establish a program to publicly discuss both medical and ethical issues.

The committee reviewed an attendance report for the various ArMA committees and then discussed at great length a suggested consolidation format which would create efficiency and reduce costs to the Association. The committee reviewed an attendance report for the various ArMA committees and then discussed at great length a suggested consolidation format which would create efficiency and reduce costs to the Association. Throughout the discussion, various revisions were made in the suggested format for final consideration and recommendation by the committee during its next meeting on February 2nd.

The committee received the 12/10/84 letter from Dr. Hanss relative to the continuation of the Professional Committee, and discussed the current activities of the Grievance Committee, concern being expressed that the only grievances now considered were appeal matters, with initial complaints being referred by the Association to either the county society or BOMEX. It was agreed that mediation of member complaints at the ArMA level could be considered as another member benefit and could possibly serve in a reduction of malpractice claims by virtue of early involvement in and resolution of grievance matters. It was moved and carried to accept staff recommendation that the Grievance Committee stand alone and that the language contained in the bylaws, drafted by Counsel, setting forth the functions of that committee, together with the discussions during this meeting of the Long Range Planning Committee, be referred to the Grievance Committee, requesting that it meet shortly after the first of the year to draft and formulate language for new functions of that Committee for consideration by the Board of Directors.

Following a discussion of the activities of the Maternal and Child Health Care Committee and agreement that that committee deals with matters of a very specific nature, it was moved and carried to exempt the Maternal and Child Health Care Committee from consolidation and leave it as a standing committee of the Association.

Dr. Ward addressed the members regarding usage of the term "quality care," for which no positive definition had been developed by the Association, it being his feeling that it was appropriate for this committee to do so. He presented the committee with the following proposal and challenged each member to prepare alternatives for consideration by the committee during its next meeting.

"Definition of Quality Care is not more frequent care nor more expensive care,

but the flexibility and freedom for patients and physicians to select the least amount of diagnosis and treatment which consistently contributes to the maintenance or improvement of life characterized by maximum attainable level of physical, emotional and intellectual performance."

LEGISLATIVE COMMITTEE

A meeting of the Legislative Committee of the Arizona Medical Association, Inc., was held on Saturday, January 12, 1985, at 810 West Bethany Home Road, Phoenix.

Announcement was made of the Day at the Legislature sponsored by the ArMA Auxiliary. Luncheon is scheduled at 12 o'clock at the Hyatt with Senator Carl J. Kunasek as speaker. All were urged to attend. Date is January 29, 1985.

The ArMA Position on Health Care Cost Containment (Prop. 301), Committee was briefed on background material on this proposal and was advised there is some interest at the Legislature for a bill similar to Prop. 301, some for doing nothing, with everybody else in an in-between position.

Dr. Baker said a special Task Force on Economics of Quality Care has been created. The Committee is beginning by studying the proposals of the Utah State Medical Association. Dr. Baker further explained that the Board's position of support for Prop. 301 acts as a guide for the Legislative Committee until the Task Force finishes its work and new recommendations are developed.

He also advised the Committee of a meeting with Bill Jacquin who is forming a committee of the State Chamber which would coordinate all entities on cost containment. Mr. Jacquin's plan is to have one committee address legislation this year and a second committee deal with long term aspects.

A Subcommittee of the Legislative Committee on Cost Containment Legislation has been appointed. Purpose of this subcommittee is to move on any "hot" legislative items when it is not possible to call a meeting of the entire committee. Subcommittee members are as follows: Neopito L. Robles, M.D., Chairman, Gary L. Henderson, M.D., Clyde W. Kurtz, M.D., Marvin C. Schneider, M.D., Walter K. Sosey, M.D. and Robert E. Westfall, M.D.

The three critical issues concerning malpractice are: Statute of Limitations, Periodic Payments and Limitation on Contingency Fees. Much research has been done on the background of the issues and it was the consensus of the committee that the public should be made aware of the problems of high settlements versus cost containment. Dr. Sattenspiel said the bills would be printed and would be on the next agenda.

Dr. Neubauer announced the total ArMPAC membership for 1984 was 745. He said that $14,000 had been distributed in 1982 as opposed to over $30,000 in 1984 with a balance of approximately $27,000 for this year's PAC. Dr. Neubauer commented that even with this large amount, it only represents a small portion of ArMA membership.

Optometrists are trying to secure legislation to permit the use of therapeutic drugs and the ability to do certain types of outpatient surgery. The ophthalmologists feel this expansion in the scope of optometry practice is far beyond the qualifications of optometrists and that it would present a major quality of care question. While no bill has yet been introduced which would affect these changes, it was moved and carried to offer active nonsupport on this issue.

The Supreme Court of Arizona in the Darner Case basically adopted a position that the reasonable expectations of the insured have precedent over the written contract. This would have impact in areas affecting physicians: a) as it pertains to informed consent and b) as it pertains to MICA insurance policies. It was moved and carried to offer general support for legislation concerning the problems created by the Darner decision.

Dave Landrith from BOMEX explained the two bills BOMEX is introducing. 1. deals with Physician's Assistants and corrects an oversight from last year. It was moved and carried to offer general support for the BOMEX bill. 2. deals with the FLEX exams and proposes a change from the current statute which was modified last year. BOMEX feels this bill will be an acceptable compromise to the Legislature. The bill would require a minimum score of 70 on any one component (as opposed to subject) and a weighted average of 75. It was moved and carried to offer general support for the BOMEX bill.

Discussion was held on the two laws as health related measures with cost containment overtones. Concern was over the human rights issues which will emerge if these laws are proposed. It was moved and carried to actively support the concept of mandatory seat belts and the reinstatement of the motorcycle helmet law.

The Committee was advised that a law which would allow Medical Examiners to remove pituitary glands without consent, in cases where the normal routine includes removal of the brain, is being proposed. Mention was made of the religious restrictions forbidding such a removal and after much discussion, it was moved and carried to offer general support for the pituitary gland removal bill.

The Arizona Diabetes Association asked for support for a law mandating insurance coverage for education of diabetics. There is considerable problem in establishing a precedent of identifying specific diseases, procedures or practitioners which must be covered under insurance policies. After much discu sion, it was moved and carried that ArM does not support the further mandato insurance coverage for specific disea entities, procedures or practitione unless it can be shown to be necessary preserve public health and can be show to be cost effective.

Peer Review Immunity - There is son question in the statute as to whether not it covers in its definition HMO PPO's, etc. and there may be interest extending the law to cover these orgar zations. It was moved and carried to off active study for this issue.

Chic Older reported on a meeting wi Drs. Shaller and Winograd re AHCCC He said a meeting with AHCCCS staff ar the ArMA Indigent Health Care Comm tee is being set up to try to resolve recu ring problems.

The Legislative Reception will be he this year on Monday, March 11, 1985, 6:(p.m. to 8:00 p.m., at the Arizona Medic Association's headquarters. Invitatio will go out this week and all are urged attend and meet your Legislators.

Charline Franz, Department of Heal Services, said the issues her Department concerned with are the Trauma bill (san as last session), water quality and au emissions. Dr. Raife, representing th Arizona Chapter, American College Emergency Physicians, explained th there is a difference of opinion amor physicians on this bill and that he was n in a position at this time to definitely off a recommendation.

Dr. Robles told the Committee that w will be initiating a new system for keepir the Committee advised of bills for th Legislature. Due to the postage increas size of bills, large number of committe members, members will receive a sur mary of bills alone with staff recomme dations on position. Bills which conta controversial matter will be sent entirety to each member. Copies of bills will be available upon request.

Notice of next meeting will be flexibl based on number of bills available.

Future Meetings

The following institutions and organizations hav been accredited for their continuing medic education programs by the Arizona Medic Association and/or the Accreditation Council f Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital, Sun City

amelback Hospital, Phoenix
esert Samaritan Hospital, Mesa
ne Eye Foundation
agstaff Hospital & Medical Center
f Northern Arizona
ood Samaritan Medical Center, Phoenix
ealth Maintenance Associates, Phoenix
aricopa Medical Center, Phoenix
emorial Hospital of Phoenix
esa Lutheran Hospital, Mesa
noenix Baptist Hospital & Health Center
noenix Indian Medical Center
. Joseph's Hospital & Medical Center, Phoenix
. Joseph's Hospital, Tucson
. Luke's Hospital & Medical Center, Phoenix
. Mary's Hospital, Tucson
cottsdale Memorial Hospital
ucson Hospitals Medical Education Program, THMEP) Tucson
niversity of Arizona College of Medicine, Tucson
eterans Administration Medical Center, Phoenix
eterans Administration Hospital, Prescott

accredited institutions and organizations above duce a variety of continuing medical education grams. Each accredited institution and anization is responsible for designating which of se programs meet ArMA's requirements for egory 1 credit. Physicians who participate in grams which are designated Category 1 by redited institutions will receive Category 1 credit ard the ArMA Certificate in CME and the AMA's sician's Recognition Award.

FEBRUARY

) Annual International Cataract Surgery mposium
bruary 18-20. Loews Paradise Valley sort, Scottsdale, Arizona. Sponsor: The e Foundation. Contact: Aaron D. inrich, (602) 257-1077. Approved for 16 urs Category 1 Credit.

sert Symposium: Cataract, Corneal and e Plastic Surgery
bruary 20-23. Westward Look Resort. onsor: St. Joseph's Hospital and rondelet Health Services, Inc. Contact: onne Clingerman, Director, Medical Staff ministration, St. Joseph's Hospital & alth Center, 350 North Wilmot Road, cson, Arizona 85732. (602) 296-3211. proved for 12 hours Category 1 credit.

esthesia for the 80s
bruary 22-24. Tucson Doubletree Hotel, 5 South Alvernon Way, Tucson, Arizona. onsor: Arizona Society of esthesiologists & Department of esthesiology, University of Arizona, llege of Medicine. Contact: Arizona ciety of Anesthesiologists (602) 246-01. Approved for 15 hours Category 1 edit.

riatrics
bruary 22-24. Ramada Inn, Tucson, izona. Sponsor: University of Arizona llege of Pharmacy. Contact: Jack R. ndt, Ph.D., College of Pharmacy, U of A, cson, Arizona 85721.

nergency Care Update VII
bruary 25-27. Arizona Health Sciences nter, Tucson, Arizona. Sponsor: niversity of Arizona Health Sciences nter. Contact: Lynne Mascarella, ogram Coordinator, Office of Continuing edical Education and Outreach. (602) 6-6173.

MARCH

10th Annual Update: Primary Care
March 12-15. Arizona Health Sciences Center, Tucson, Arizona. Sponsor: University of Arizona, Health Sciences Center, College of Medicine. Contact: Lynn Mascarella, Office of Continuing Medical Education, (602) 626-6173, or write Office of Continuing Medical Education, Arizona Health Sciences Center, Tucson, AZ 85724. Approved for 16 hours of Category 1 Credit.

Pediatric Update 1985
March 19-22. La Posada Resort Hotel, Scottsdale, Arizona. Sponsor: Phoenix Children's Hospital. Contact: Ronald A. Christensen, M.D., Phoenix Children's Hospital, 1117 E. Willetta St., Phoenix, Arizona 85006. Approved for 16 hours Category 1 Credit.

Flexible Sigmoidoscopy
March 22-23. The Arizona Biltmore Resort, Phoenix, Arizona. Sponsor: Section of Gastroenterology of St. Luke's Medical Center, Phoenix. Co-sponsored by the Arizona Society of Gastrointestinal Endoscopy. Contact: Christine Campbell, Director, Department of Medical Meetings, St. Luke's Medical Center, 1800 E. Van Buren, Phoenix, Arizona 85006. (602) 251-8402.

APRIL

Obstetrical Challenges of the 1980s
April 11-13. Red Lion's La Posada Resort Hotel, Scottsdale, Arizona. Sponsor: Good Samaritan Medical Center, Phoenix, Arizona. Contact: Renee Simenson, Good Samaritan Medical Center, Division of Maternal-Fetal Medicine, 1111 E. McDowell Road, P.O. Box 2989, Phoenix, Arizona. (602) 239-2647. Approved for 15 hours Category 1 Credit.

Right Heart Failure
April 11, 12 & 13. Hyatt Regency Hotel, Phoenix, Arizona. Sponsor: St. Luke's Heart Lung Center, co-sponsored by Arizona State University. Contact: Christine Campbell, Director of Medical Meetings, St Luke's Medical Center, 1800 East Van Buren, Phoenix, Arizona 85006. (602) 251-8402. Participants will be eligible to receive Category 1 CME credit.

Industrial Toxicology
April 25-27. Scottsdale Hilton Resort, Scottsdale, Arizona. Sponsor: The Central Arizona Regional Poison Management Center, St. Luke's Medical Center, Phoenix. Contact: Christine Campbell, Director, Department of Medical Meetings, St. Luke's Medical Center, 1800 E. Van Buren, Phoenix, Arizona 85006. (602) 251-8402. Approved for Category 1 CME credit and CEU applied for.

MONTHLY OR WEEKLY

Shrine Medics Meeting
Second Tuesday of each month, Humana Hospital, Phoenix, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

Pediatric Grand Rounds
Tuesday 7:30-8:30 a.m. in Phoenix:
1st Tues.—Phoenix Children's Hospital.
2nd Tues.—Maricopa Medical Center.
3rd Tues.—Phoenix Children's Hospital.
4th Tues.—St. Joseph's Hospital.
Sponsor: Phoenix Hospitals Affiliated Pediatric Program. Contact Paul S. Bergeson, M.D., P.O. Box 2989, Phoenix, Arizona 85062. Approved for 1 hour per session Category 1 credit.

Review of Forensic Pathology Current Case, Special Topics
Thursday, weekly, 11:00 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ 85008. Contact: Martin B. Kassell, M.D.

Inservice Training
1st Friday, 1:00-2:00 p.m., Room 5, Education Building.

Psychiatric Case Presentation
2nd Friday, 1:00-2:00 p.m. Room 5, Education Building.

Clinical Pathological Conference
3rd Friday, 1:00-2:00 p.m., Room 5, Education Building

Open Topic
4th Friday, 1:00-2:00 p.m., Room 5, Education Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.

The Ventricular System, Cerebrospinal Fluid and Hydrocephalus
Tuesday, 4:15-5:30 p.m., first floor conference room, Hal W. Pittman, M.D., Chief, Section of Pediatric Neurosurgery

Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.

Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.

Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.

Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.
Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.
Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed.D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.
Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.
CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.
Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.
Surgical Department Meeting
3rd Monday, 11:45 p.m.
Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.
Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.
Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.
Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713. Contact: Eric G. Ramsey, M.D., Approved for Category 1 credit.
Surgical Conference
Weekly, Monday 8:00 a.m., Contact: Eric G. Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m., Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m., Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 850
Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.
Tumor Board
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.
Anesthesiology Morbidity & Mortality Conference
Weekly, Mondays, 2:45 p.m.
Surgery Burn Grand Rounds
Weekly 7:30 a.m.
Medicine Chest
1st & 3rd Monday, 12 Noon.
Medicine GI
2nd & 4th Monday, 12 Noon.
Medicine Dermatology
5th Monday, 12 Noon.
Chest/Surgery
Weekly, Mondays, 1:30 p.m.
Ambulatory Pediatrics
Weekly, 2:45 p.m.
OB Problem Conference
Weekly, Tuesday, 7:30 a.m.
Orthopedic Conference
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.
Medicine Neurology
1st & 3rd Tuesday, 12 Noon.
Medicine Renal
2nd Tuesday, 12 Noon.
Emergency Medicine
4th Tuesday, 12 Noon.
OB/GYN—Tri-Hospital Perinatal Mortality
3rd Tuesday, 12 Noon.
OB/GYN—Departmental Grand Rounds
1st and 2nd Tuesday, 12 Noon.
GYN Endocrine Conference
4th Tuesday, 12 Noon.
Anesthesiology—General
Weekly, Tuesday, 2:45 p.m.
Review of GYN Pathology Slides
Weekly, Tuesday, 4:00 p.m.
Pediatric Grand Rounds
2nd Tuesday, 7:30 a.m.
Pathology Staff Inservice
Weekly, Wednesday, 6:45-7:50 a.m.
Anesthesiology Residents & CRNA's Conference
Weekly, Wednesday, 7:00 a.m.

ı/Neonatal Conference
eekly, Wednesday, 7:30 a.m.
rgery
eekly, Wednesday, 7:00 a.m.
rgery Hand Conference
eekly, Wednesday, 7:30 a.m.
ychiatry Staff
Wednesday, 11:00 a.m.
ychiatry General Conference
d, 3rd, & 4th Wednesdays, 12 Noon.
edicine Cardiology
Wednesday, 12 Noon.
edicine Mortality
d Wednesday, 12 Noon.
edicine Infectious Disease or Hematology
ı Wednesday, 12 Noon.
diatrics Renal/Endo Conference
Wednesday, 12:30 p.m.
diatrics Infectious Disease
ı Wednesday, 12:30 p.m.
esthesiology Staff Lecture
, 2nd & 4th Wednesday, 2:30 p.m.
rgery Morbidity & Mortality Conference
, 2nd & 4th Wednesday, 3:30 p.m.
es/Surgery Joint Traum Conference
d Wednesday, 3:30 p.m.
rgery Urology Staff
d Thursday, 7:30 a.m.
esthesiology Journal Club
ı Thursday, 8:00 a.m.
ıbulatory Pediatrics
eekly, Thursday, 8:00 a.m.
rgery Burn Chart Rounds
, 2nd, & 3rd Thursdays, 8:00 a.m.
rn Mortality Conference
ı Thursday, 8:00 a.m.
edicine Problem Case Conference
Thursday, 12 Noon.
edicine Rheumatology
d Thursday, 12 Noon.
edicine Staff & House (Separate)
ı Thursday, 12 Noon.
ı/GYN Resident Conference
, 2nd & 3rd Thursday, 12 Noon.
scular Surgery Conference
, 2nd & 4th Thursday, 12:30 p.m.
ombined GI & Surgery Conference
d Thursday, 12:30 p.m.
esthesiology Chief Resident's Lecture
eekly, Thursdays, 2:45 p.m.
thopedic Surgery Basic Sciences
eekly, Thursdays, 5:30 p.m.
ı/Surgery Pathology
eekly, Fridays, 7:30 a.m.
thopedic Surgery Fracture X-Ray
nference
eekly, Fridays, 7:30 a.m.
edicine Endocrinology
Friday, 12 Noon.
edicine Infectious Disease
d Friday, 12 Noon.
edicine/Radiology Conference
d Friday, 12 Noon.
edicine Cardiology
ı Friday, 12 Noon.
ı/GYN Tumor Board
ı Friday, 12 Noon.
rgery Tumor Board
t, 2nd & 3rd Friday, 12 Noon.
/N Endo Conference
t & 3rd Friday, 12:30 p.m.
diatric Radiology Conference
t & 2nd Friday, 12:30 p.m.
diatric Dermatology
d Friday, 12:30 p.m.
diatric Infectious Disease
ı Friday, 12:30 p.m.
rgery Rehab Rounds
eekly, Friday, 1:30 p.m.

Surgery Selected Readings
2nd & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201.
Contact: E. John Wickman, M.D.
Continuing Medical Education Programs
Tuesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015.
Contact: J. Burr Ross, M.D., Approved for Category 1 credit.
Clinical Conferences
1st, 2nd & 3rd Tuesdays, 12 noon,
5th Floor Auditorium.
CPC or Medical-Surgical Forum
4th Tuesday, 12 noon,
5th Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016.
Contact: Leland L. Fairbanks, M.D.,
Approved for Category 1 credit.
Clinical Staff Teaching Conference, Rm. A.
Weekly, Wednesday, 8:00-9:00 a.m.
Family Practice/Emergency Room Teaching Conference
Thursday, Weekly, 7:30-8:30 a.m.,
Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036.
Contact: George Scharf, M.D. Approved for Category 1 credit.
Monthly Medical Education Seminar
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
Clinical Conferences
Weekly, Tuesday, 12:30 p.m., Kiva Conference Rm.
Psychiatric Clinical Conference
2nd Friday, 11:30 a.m., B-Wing Conf. Rm.,
Contact: Medical Staff Secretary.
Tumor Board Conference
Weekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

7400 East Osborn, Scottsdale, AZ 85251.
Contact: Tom Disney, M.D., Approved for Category 1 credit.
Family Practice Conference
1st Monday, 12:30 p.m., Doctors' Lounge.
Emergency Medical Services Conference
2nd Monday, 12:30 p.m., Doctors' Lounge.
Neurology/Neurosurgery Conference
3rd Monday, 12:30 p.m., Doctors' Lounge.
CPC Conference
4th Monday, 12:30 p.m., Doctors' Lounge.
Pediatrics Conference
5th Monday, 12:30 p.m., Doctors' Lounge.
Pulmonary Conference
1st Tuesday, 12:30 p.m., Doctors' Lounge.
Cardiology Conference
2nd Tuesday, 12:30 p.m., Doctors' Lounge.
Surgery Conference
3rd Tuesday, 12:30 p.m., Doctors' Lounge.
Resident Grand Rounds
4th Tuesday, 12:30 p.m., Doctors' Lounge.
Medical Subspecialties
5th Tuesday, 12:30 p.m., Doctors' Lounge.
Uronephrology Conference
3rd Thursday, 12:30 p.m., Doctors' Lounge.
Tumor Conference
4th Thursday, 12:30 p.m., Doctors' Lounge.
GI/Med/Surg/Radiology Conference
2nd Friday, 12:30 p.m., Doctors' Lounge.

ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.
Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am.,
Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium.
Chest Conference
4th Monday, 12:15 p.m., Phillips Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips Auditorium.
Psychiatry Conference
3rd Thursday, 7:00 a.m., Auditorium.
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m.,
1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m.,
Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.m.,
Pediatric Department.
Pediatric Grand Rounds
4th Tuesday, 7:30-8:30 a.m., Contact:
J. Kipp Charlton, M.D.
ECG Conference
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
Medical Grand Rounds
Weekly, Wednesday, 8:00 a.m.,
1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 8:00 a.m., PIMC.
Visiting Professor Informal Presentation
Weekly, Thursday, 9:30 a.m.,
1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 12:30 p.m., PIMC.

Nephrology Conference
Weekly, Fridays, 12:30 p.m.,
Pediatric Department.

ST. JOSEPH'S HOSPITAL TUCSON

350 N. Wilmot Road, Tucson, AZ 85711
Contact: Yvonne Clingerman, Medical Staff Office. Approved for Category 1 credit.
Current Concepts in Medicine
Weekly, Tuesday, 12 Noon, Auditorium
A Talk on Allergies
Weekly, Tuesday, 12 Noon, Auditorium
Surgery Department Conference
4th Monday, 12 Noon, Auditorium
Hematology/Oncology Conference
Last Wednesday, 12 Noon, Contact: Nick Mansour, M.D.
Ophthalmology Case
2nd Tuesday, 7:30 a.m.
Ophthalmology Society
4th Tuesday, 6:00 p.m., Auditorium
Contact: Leonard Joffe, M.D.

ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.
Monthly Specialty Conference — Dept. of Surgery
1st Monday, 7:30 a.m., Century Rm. A.,
Contact: Med. Staff Office.
Joint Liver Conference - Lab Conference Room
2nd Monday of each month - 12:00 noon.
Grand Rounds: Medical, Surgical, Family Practice, Pathology, Radiology
Weekly, Thursday.
Emergency Medicine Lectures
Weekly, Thursday, 8:00 a.m.,
Century Rm. A.
Cardiology Conference
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.
Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5,
Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5,
Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435,
Contact Dr. Benene, Ext. 786

Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134,
Contact: Dr. Russo, Ext. 362
and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134,
Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference
1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.
G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon,
Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410,
Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m.,
Room 4115, Contact: Dr. Rohwedder,
Ext. 388.
Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435,
Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.

Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5,
Contact: Dr. Zeller, Ext. 272
Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435,
Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512,
Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435,
Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134,
Contact: Dr. Haddad, Ext 418.

Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Contact Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134,
Contact: Dr. Cintora, Ext. 417.

PRESCOTT VETERANS ADMINISTRATION HOSPITAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
Medical Rounds
1st & 3rd Thursdays, 10:00 a.m.-2:30 p.m.
Surgical Rounds
4th Thursday, 10:00 a.m.-2:30 p.m.

TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixtieth Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
Medical/Surgical Chest Conference
Weekly, Tuesday, 2:00 p.m.,
Contact: Dr. Young.
Medical Grand Rounds
Weekly, Wed., 12:00-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC),
Contact: Jay Smith, M.D.
Surgical Grand Rounds
Weekly, Wed., 4:00 p.m.,
Contact: Dr. Putnam.
Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m., Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107,
Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Conf.
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m.,
Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma, Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon,
Contact: M. Maximov, M.D.

rmatology Conference
Monday, 5:00 p.m.,
ntact: R. Miller, M.D.
docrinology Conference
Monday, 12 Noon,
ntact: M. Parker, M.D.
phrology Conference
d Monday, 12 Noon,
ntact: Stephen Seltzer.
ychiatry Department Meeting
d Monday, 12 Noon,
ntact: Howard Winkler, M.D.
rinatal Conference
d Tuesday, 7:00 a.m.
rgical Conference
d Tuesday, 7:15 a.m.
matology Conference
Tuesday, 12 Noon,
ntact: Gerald Giordano, M.D.
lmonary/Infectious Disease Conference
eekly except 4th, Tuesday, 12 Noon,
ntact: B. Friedman, M.D.
thopedic Conference
Tuesday, 7:30 p.m.,
ntact: Jay Katz, M.D.
diatric Grand Rounds
& 3rd Tuesdays, 12:30 p.m.,
ntact: Dr. Lightner.
urophysiology Conference
d Tuesday, 5:00 p.m.,
ntact: Robert Foote, M.D.
nical Pathology Conference
st Wednesday, 8:00 a.m.,
ntact: Dr. Fuchs.
dical Conference
eekly, Wednesday, 8:00 a.m.,
ntact: M. Fuchs, M.D.
uorology-Neurosurgery Conference
eekly, Wednesday, 12 Noon,
ntact: H. W. Buschsbaum, M.D.
uroradiology Conference
eekly, Thursday, 5:00 p.m.,
ntact: N. Komar, M.D.
mor Conference
eekly, Thursday, 12 Noon,
ntact: Cancer Committee.
Conference
eekly, Friday, 12 Noon,
ntact: Charles Sanner, M.D.
erhospital Nuclear Medicine Conference
eekly, Friday, 7:15 a.m.,
ntact: S.V. Hilts, M.D.
I/GYN Conference
Friday, 7:30 a.m.,
ntact: Charles Parker, M.D.
I/GYN Pathology Conference
d Friday, 7:30 a.m.,
ntact: R. Spark, M.D.

U OF A HEALTH SCIENCES CENTER

onsor: U of A College of Medicine,
cson, AZ 85724. Robert M. Anderson,
D., Dir. of CME. Contact: See below.
proved for Category 1 credit.
esthesiology Board Review Conference
d & 4th Monday, 4:00-5:00 p.m., AHSC
ning Rm. C&D, Contacts:
s. Vaughn & Kryc.
esthesiology Basic/Clinical Sciences
ctures
eekly, Thursday, 4:00-5:00 p.m.,
oom 5403.
esthesiology Case Discussion
eekly, Wednesday, 7:00 a.m., AHSC,
ning Rm. C&D.

Anesthesiology Resident Presentation
1st Monday, 4:00-5:00 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
Cancer Center Tumor Board Seminar
3rd Tuesday, Monthly, 12:00-1:00 p.m., HSC Auditorium, Contact: Cancer Center.
Cardiac Catheterization Conference
Weekly, Friday, 4:30 p.m.,
Contact: Dr. Ewy.

Cardiology Non-invasive Conference
Weekly, Friday, 3:30 p.m.,
Contact: Dr. Ewy.
Tucson Cardiac Society
1st Thursday, 6:30 p.m., Arizona Inn,
Contact: Karen Garcia.
Clinical Immunology, Allergy & Rheumatology Rounds
Every Friday, Noon-1:00 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
Cerebrovascular Disease Conference
Mondays, 5:00-6:00 p.m., Weekly,
Rm. 5505., Contact: Jerry Goldstone, M.D., Dept. of Surgery.
Dermatology Conference
4th Monday, 5:15 p.m., AHSC,
Contact: Dr. R. Friedman.
Dermatology Rounds
Weekly, Wednesday, 11:30 a.m.,
Contact: Dr. Lynch.
Ear, Nose & Throat Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. S. Coulthard
Endocrinology Seminar
Weekly, Thursday, 12:00-1:00 p.m.,
Contact: Dr. Johnson.
Emergency Medicine Grand Rounds
Tuesdays, 9:00 a.m., AHSC,
Contact: Dr. Sanders.
GI Pathology Conference
4th Friday, 1:30 p.m., AHSC,
Contact: S. Paplanus.
GI Radiology Conference
2nd & 4th Mondays, 7:30 a.m., AHSC,
Contact: Dr. T. Hunter.
Head & Neck Tumor Management Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. Murrell.
Hematology-Oncology Clinical Conference
1st & 5th Tuesdays, Noon-1:00 p.m.,
Rm. 6505. Contact: S. Salmon, M.D.,
Dept. of Internal Medicine.
Medical Grand Rounds
Weekly, Wednesday, 12:00-1:00 p.m.,
AHSC, Contact: Dr. J. Smith.
Morbidity/Mortality in E.M.
2nd Tuesday, 9:00 a.m., AHSC,
Contacts: Drs. Hughes & Alcorn.
Neuromuscular Disease Conference
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Stern.
Neuropathology Case Review
Weekly, Friday, 8:30 a.m., UAHSC,
Contact: Dr. P. Johnson.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: Dr. P. C. Christenson.
Neuromuscular Journal Conference
2nd & 4th Thursdays, 7:00-9:00 p.m.,
Contact: Dr. Stern.
Neurosciences Seminar
Weekly, Tuesday & Friday, 7:30 a.m.,
AHSC, Contact: Dr. C. Bamford.
Nuclear Medicine
Weekly, Thursday, 7:30 a.m., AHSC
Radiology Conference Rm.

OB/GYN Lectures
Weekly, Friday, 3:30 p.m., AHSC,
Contact: Dr. C. D. Christian.
Ophthalmology Grand Rounds
3rd Friday, 7:30 a.m., AHSC,
Contact: Dr. J. Herschler.
Ophthalmology Retina Fluoro. Conference
Weekly, Thursday, 5 p.m., AHSC,
Contact: Dr. H. Cross.
Orthopedic Rounds
Saturday, 8:00 a.m., Contact: Dr. Peltier.

Pain Conference
3rd Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.
Pathology Conference
Weekly, Monday, 12 noon, AHSC,
Contact: Dr. C. D. Christian.
Pathology Seminar
Weekly, Friday, 4:30-5:30 p.m., AHSC,
Rm. 5120. Contact: Dr. P. Finley.
Tucson Pathologist Conference
1st Monday, 7:30 p.m., AHSC,
Contact: Dr. A. R. Graham.
Pediatric Grand Rounds
2nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
Contact: Dr. H. Thompson.
Pediatric Problem Patient Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Lillian Valdes-Cruz.
Pediatric Research Forum
Weekly, Tuesday, 7:30 a.m.,
Contact: Dr. Otakar Koldovsky.
Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.
Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.
Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.
Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.
Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.
Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.
Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.
Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.
Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.
Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.
Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.
Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.
Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.
Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.
Trauma Conference
Thursday, 4:00-5:00 p.m. AHSC, Rm. 5505.

Toxicology Conference
Weekly, Tuesday, 8:00 a.m.,
Contact: Dr. Keith Likes.
Tucson Ultrasonography Group
Weekly, Wednesday, 4:30 p.m., AHSC,
Contact: Dr. I. Freundlich.
General Urology Conference
Weekly, Tuesday & Thursday, 12:00 noon,
AHSC & VA Hospital
Contact: Dr. G.W. Drach.
Vascular Surgery Conference
Weekly, Tuesday, 4:00-6:00 p.m., AHSC,
Contact: Dr. J. Goldstone.

MEETING NOTICE

35th Annual Course for Physicians in Family Practice

For the 35th consecutive year, Mount Zion Hospital and Medical Center presents this postgraduate course designed for physicians in family and general practice. To be held at Mount Zion Hospital and Medical Center, San Francisco, California on March 6-8, 1985. For more information contact: Robin B. Jackson, Office of Continuing Education, P. O. Box 7921, San Francisco, California 94120. (415) 885-7269.

1985 CME CRUISE/CONFERENCE ON SELECTED MEDICAL TOPICS

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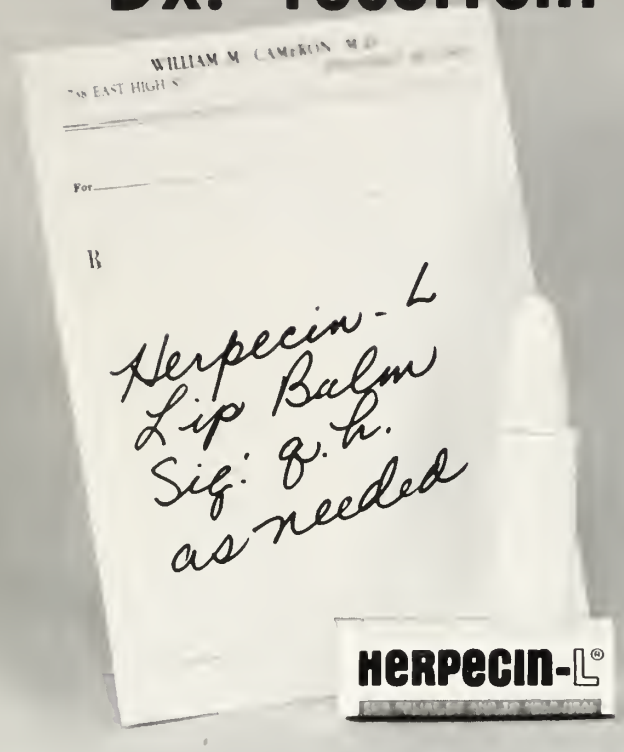
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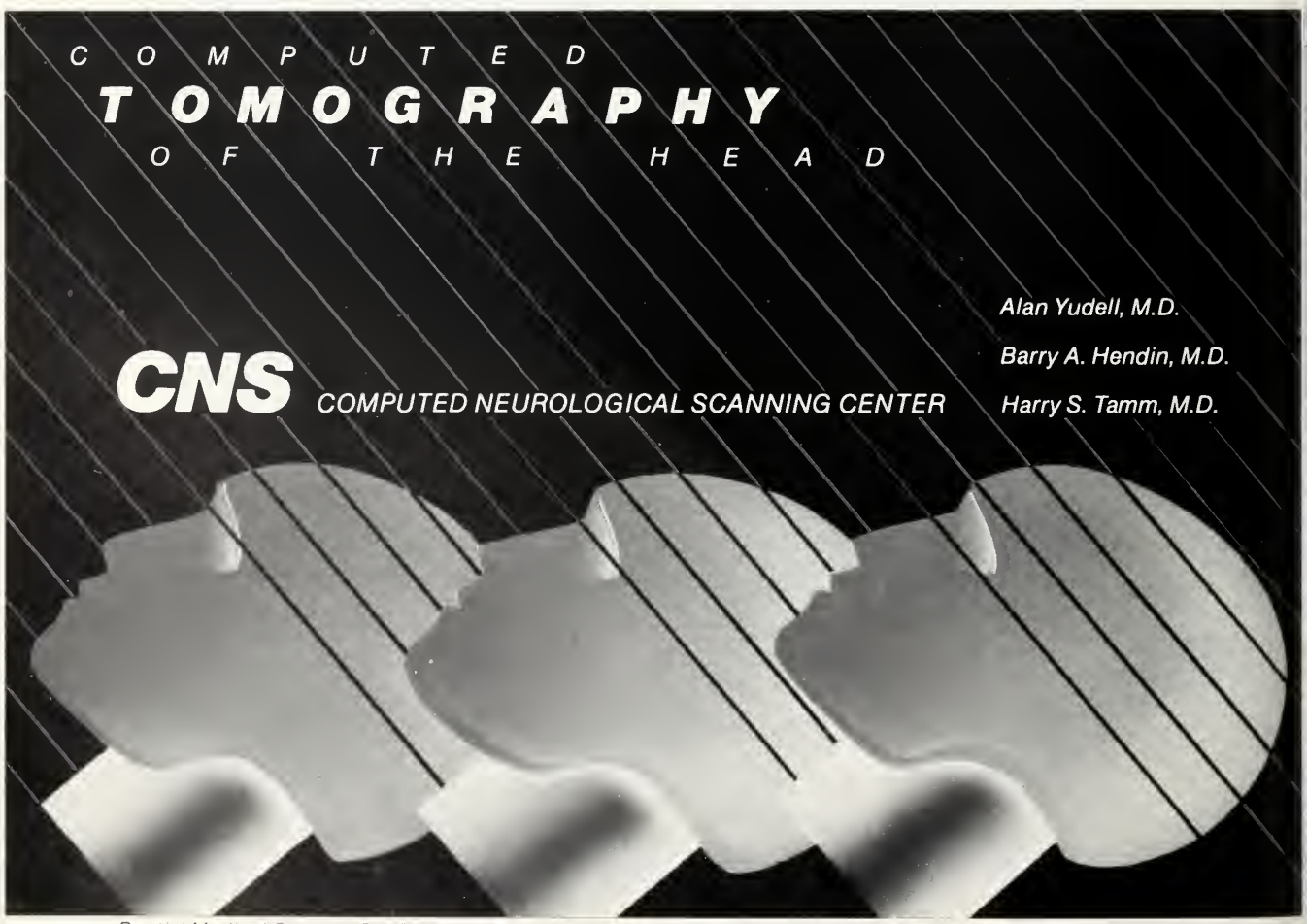
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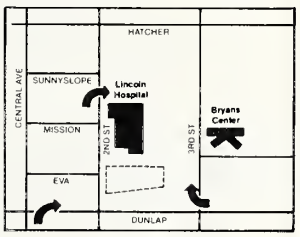
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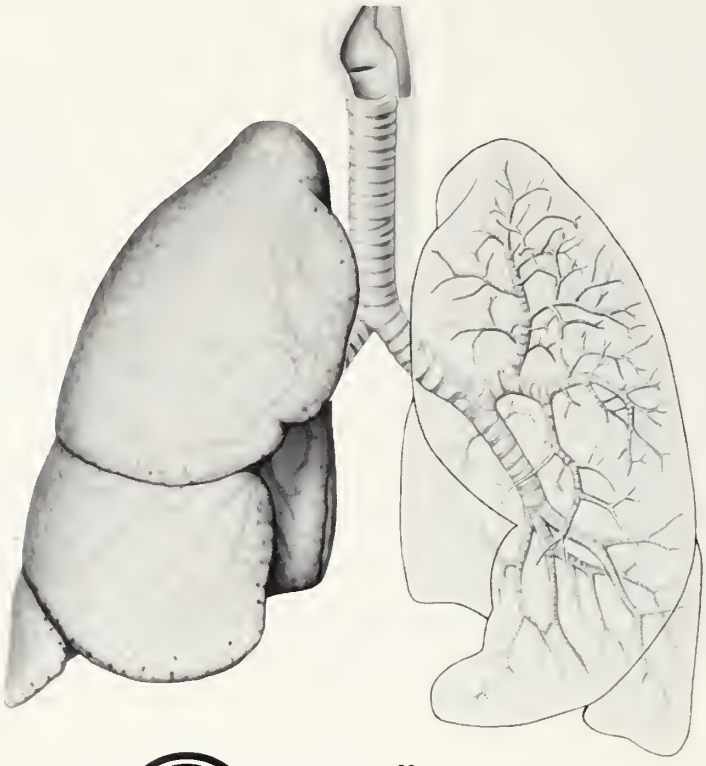
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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[0617B2R]

Note Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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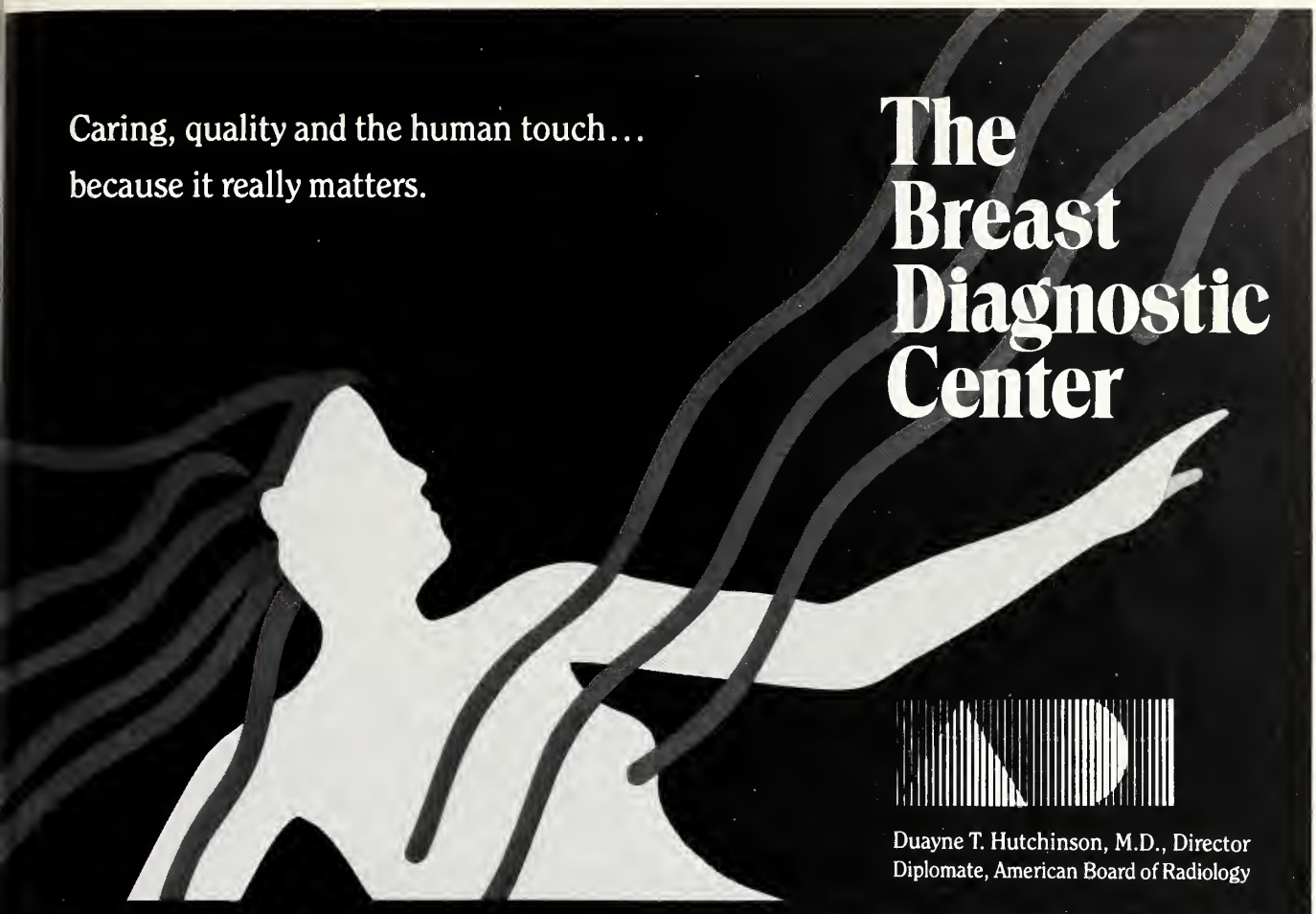
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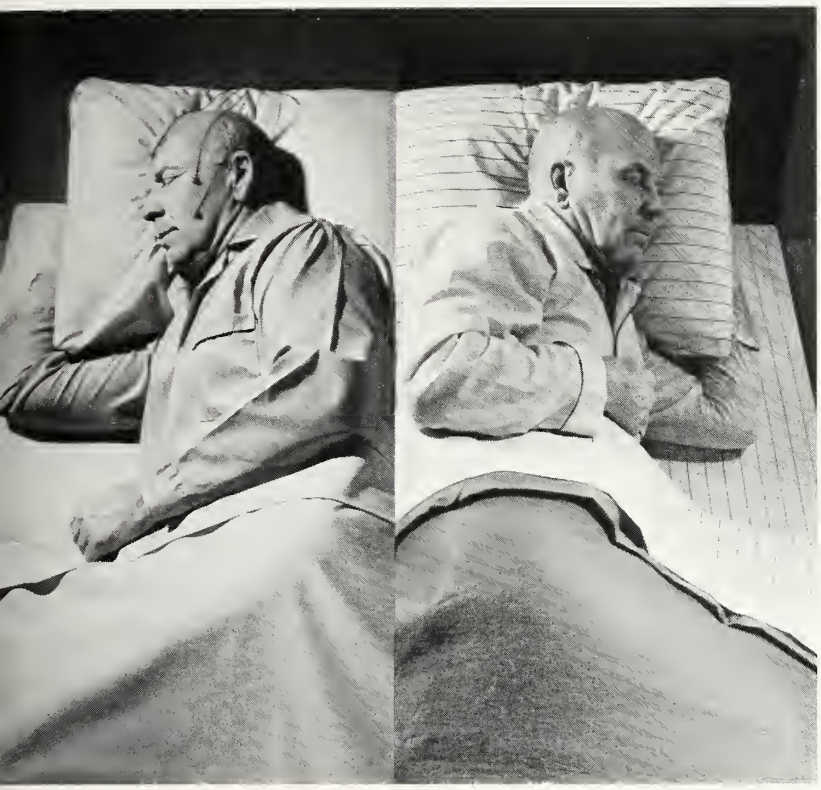
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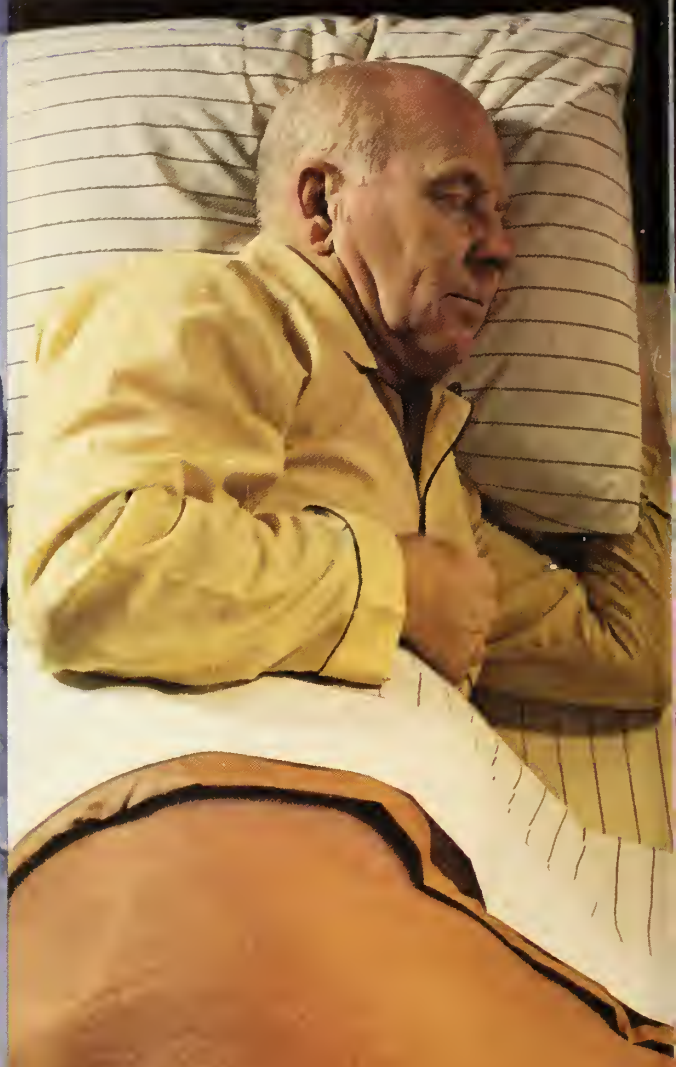
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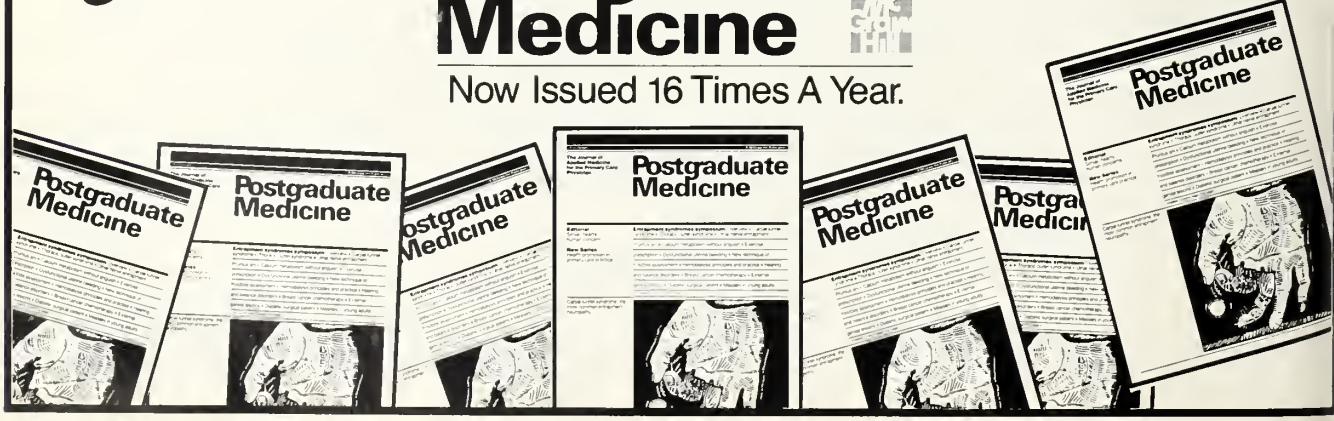
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Cardiology

Atrial Fibrillation in the Wolff-Parkinson-White Syndrome:

Effects of Verapamil and Procainamide

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Abstract

Atrial fibrillation is a potentially serious arrhythmia in patients with the Wolff-Parkinson-White (WPW) Syndrome when there is rapid antegrade conduction of the atrial impulses down the accessory pathway. Under these circumstances, the ventricular rate may become rapid and ventricular fibrillation ensue. We report a case where verapamil accelerated conduction through the accessory pathway in a patient with the WPW Syndrome and atrial fibrillation, increasing the risk for ventricular fibrillation. This adverse effect was promptly reversed by procainamide. The use of verapamil and procainamide in patients with WPW is reviewed. We suggest that electrophysiologic testing of verapamil, with elective induction of atrial fibrillation, be undertaken prior to the administration of chronic oral verapamil in all WPW patients with atrial fibrillation.

Key Words: Atrial fibrillation, Wolff Parkinson White Syndrome, Verapamil, Procainamide.

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Introduction

Atrial fibrillation (AF) is a potentially serious arrhyth mia in patients with the Wolff-Parkinson-White (WPW Syndrome when there is rapid antegrade conduction o the atrial impulses down the accessory pathway. Unde these circumstances, the ventricular rate may becom rapid and ventricular fibrillation ensue. Although vera pamil slows the ventricular response during AF i patients without pre-excitation,[1,2] there is debat whether or not this agent might increase the ventricula rate in patients with WPW. We report an instance where verapamil accelerated conduction through the acces sory pathway in a patient with WPW and where procai namide promptly reversed this adverse effect o verapamil.

Case Report

The patient, a 50-year-old man, was well until 197 when he developed palpitations associated with a chok ing sensation, lightheadedness, and diaphoresis. These episodes terminated spontaneously after approximatel two minutes. Although infrequent, these episodes were poorly tolerated and an especially severe one prompte urgent hospitalization three years later. During tha admission, the patient developed an irregular, rapid wide-beat tachycardia thought to be ventricular tachy cardia, but which responded poorly to lidocaine. He wa discharged taking slow release procainamide 1 gm q 6 hours and digoxin 0.25 mg q d. His arrhythmia recurred however, and prompted his referral to our center.

When admitted here, his blood pressure was 125/80 pulse 80 beats per minute (bpm) and regular; he weighed 76 kg. Physical examination, chest x-ray and echocardiogram were all within normal limits. Electro cardiogram (ECG) showed small delta waves in the lat eral precordial leads. A 24-hour ambulatory ECG revealed predominant sinus rhythm with rare, prema ture, wide-beat complexes, some of which clustered in triplets. A cardiac catheterization demonstrated norma coronary arteries and normal left ventricle.

An intracardiac electrophysiologic study was per formed from a site in the right groin with two quadripo lar pacing catheters positioned in the right heart Initially, the rhythm was sinus mechanism with a cycle length of 850 msec. The A-H interval was 110 msec, H-V interval 45 msec, and the QRS duration 110 msec. With atrial pacing, atrial fibrillation developed; the average ventricular response was 147 bpm and the QRS com plexes were wide and bizarre. The shortest R-R interva was 260 msec. The patient identified this arrhythmia as typical of his previous episodes. Verapamil, 5 mg (.06 mg/kg), was infused intravenously. Over the next five minutes, the ventricular response accelerated to an average of 192 bpm but the QRS morphology did not change; the shortest R-R interval became 200 msec. One gram (13 mg/kg) of procainamide was given intraven ously (IV) over 30 minutes. With this, the ventricular rate promptly decelerated to an average of 122 bpm, again with no change in the QRS morphology; the shortest R-R interval became 300 msec. (Table 1)

Table 1
Heart Rate/Cycle Length Responses to Verapamil and Procainamide

	HR (bpm)	Shortest R-R (msec)	Average R-R (msec)
Initial AF	147	260	408
After Verapamil	192	200	312
After Procainamide	122	300	492

R = heart rate
pm = beats per minute
-R = cycle length between 2 consecutive QRS complexes
nsec = milliseconds

iscussion

In patients with AF, and no bypass tract the ventricles re normally protected from excessively rapid rates by ne development of physiologic block within the AV ode. With WPW, however, activation of the ventricles ay occur via the accessory tract as well as via the AV ode. If the refractory period of the accessory tract is ort, ventricular activation may be rapid and lead to entricular fibrillation (VF). This is a well-recognized ause of sudden death in patients with the WPW ndrome.[3-7]

trial Fibrillation in WPW Syndrome

Atrial fibrillation occurs in 10% to 39% of patients with ne WPW syndrome.[3,8-10] This represents a higher incience than that found in age-matched controls. Patients ith WPW may be predisposed to atrial fibrillation for everal reasons. As suggested by Gallagher, the accesory pathway could play a role in the development of AF y supporting a reciprocating tachycardia which, with ne associated mechanical and circulatory sequelae of trial stretch and hypoxia, could lead to disorganization f the atrial rhythm. The rate of the reciprocating tachyardia associated with the WPW Syndrome is, in general, aster than that associated with AV nodal re-entry[11] and is rate could further predispose to AF. Indeed, transions from reciprocating tachycardia to AF are well described.[8,12,13] Further, with an accessory pathway single or ultiple ventricular premature contractions could conduct retrograde to the atrium and either fuse with the inus impulse, resulting in non-uniform depolarization f the atria, or arrive in the vulnerable period of atrial ecovery and thus initiate AF.[11]

Ventricular fibrillation is the most serious complication of atrial fibrillation in patients with WPW. Its development is associated with a short effective refractory period (ERP) of the accessory pathway. Castellanos demonstrated that an accessory tract ERP less than 220 msec can be associated with accelerated ventricular rates in patients with AF.[14] In patients with WPW and AF Wellens and Durrer correlated the antegrade ERP of the accesory pathway with the shortest and with the average ventricular cycle lengths. They found that the accessory tract ERP identified patients at risk for rapid life-threatening ventricular rates.[9] Using consecutive ventricular beats conducted over the accessory tract in patients with AF, Klein, et al. demonstrated a correlation between the shortest ventricular cycle length (shortest R-R interval) and the development of VF. The shortest R-R interval in WPW patients with at least one documented episode of VF was 180 ± 29 msec versus 240 ± 63 msec in WPW patients without VF. In no patient with VF was the shortest R-R interval greater than 250 msec.[5] Our patient's initial shortest R-R interval was 260 msec but after I.V. verapamil it decreased to 200 msec, presumably increasing his risk for VF.

Effects of Verapamil

Verapamil slows conduction and prolongs refractoriness in the AV node without significantly affecting intraatrial or intraventricular conduction. Thus, verapamil is effective for the acute termination of re-entrant tachycardia involving the AV node and for slowing the ventricular response during atrial fibrillation or flutter in patients without pre-excitation syndromes.[2,15-19] There is controversy, however, over the effect of verapamil on the accessory pathway in patients with pre-excitation. Spurrell, et al.[4] demonstrated that verapamil either lengthened or had no effect on the antegrade refractory period of the accessory tract in seven out of eight patients with WPW and concluded that verapamil was a safe drug in the majority of these patients. Krikler and Spurrel reported that verapamil restored sinus rhythm in one case of AF with WPW.[20] Heng, et al. infused 10 mg of verapamil to three patients with AF and WPW but observed no change in heart rate over 30 minutes.[15] These investigators all concluded that verapamil was safe and frequently beneficial in patients with WPW and AF.

More recently, Petri and colleagues described 17 patients with AF and the WPW syndrome to whom verapamil 0.15 mg/kg was given intravenously.[21] Although the mean R-R interval lengthened from 467 msec before to 564 msec after verapamil in the ten patients with predominantly normal AV conduction, the occurrence of pre-excited beats increased from 5.3% to 44%. This was thought to reflect decreased AV nodal conduction. In patients with predominant accessory pathway conduction the mean R-R interval shortened from 344 msec to 294 msec; the occurrence of pre-excited beats increased from 80% to 99.5%; and the shortest R-R interval fell from 237 msec to 199 msec. These effects were thought to reflect a shortening of the accessory pathway ERP by verapamil.

Gulamhusein and colleagues[13] studied eight patients with WPW and inducible AF. Before verapamil the AF terminated spontaneously in all patients, but after the infusion of 0.15 mg/kg of verapamil AF was sustained in four patients, two of whom required cardioversion for an accelerated ventricular response. Verapamil decreased the shortest R-R interval between pre-excited ventricular complexes during AF from 279 ± 20 msec to 236 ± 18 msec. As in Petri's study, patients with predominantly pre-excited ventricular complexes during AF demonstrated an accelerated ventricular rate, whereas patients with predominantly normal ventricular complexes had a slowed or unchanged ventricular rate after

verapamil. In all patients the frequency of pre-excited beats increased.

Harper, et al.[22] also studied the effects of verapamil on the electrophysiologic properties of the accessory pathway but found no change in the estimated antegrade or retrograde ERP. In ten of their 12 patients, however, verapamil did increase the maximum rate at which 1:1 conduction proceeded through the accessory pathway with incremental atrial pacing (control 227 ± 10 bpm verus 258 ± 14 bpm after 0.15 mg/kg IV verapamil). The rate quickened more in those patients with faster initial rates. In the four patients with AF where comparison was possible, the average R-R interval and the shortest R-R interval decreased after verapamil (327 ± 27 msec versus 282 ± 28 msec, and 237 ± 21 msec versus 209 ± 18 msec). There was a good correlation between the shortest R-R interval during atrial fibrillation and the shortest R-R interval at which 1:1 conduction came through the accessory tract during incremental atrial pacing (R = .95). This study also corroborated Spurrel's observation that verapamil has limited effects on the ERP of the accessory pathway.[4]

Verapamil could affect conduction of atrial impulses through the accessory pathway of patients with WPW in several ways. Firstly, verapamil could directly affect the cells of the accessory pathway to increase their conduction velocity. This seems unlikely, however, because the accessory pathway is comprised of anatomically and electrophysiologically normal myocardial cells and verapamil has a predominantly depressive effect on such cells. Secondly, verapamil could indirectly favor conduction through the accessory pathway by slowing conduction in the AV node; this would decrease concealed retrograde penetration into the accessory pathway and thus decrease antegrade refractoriness in the accessory pathway. Thirdly, verapamil's peripheral vasodilation could produce a reflex increase in sympathetic tone that could alter conductivity and refractoriness of the accessory pathway. Parenthetically, the effects of intravenous verapamil on sympathetic tone could be more pronounced than those of oral verapamil, and this could explain Petri, et al.'s, observation that IV but not oral verapamil, accelerated the ventricular rate in WPW patients with AF.[23]

Effects of Procainamide

To our knowledge, this is the first report that intravenous procainamide can acutely slow the accelerant effects of verapamil on the accessory pathway in patients with WPW. Wellens and Durrer[24] demonstrated that procainamide 10 mg/kg IV prolonged the ERP of the accessory pathway during atrial pacing in all six patients they tested. They saw complete but temporary block of conduction in the accessory pathway in four of these patients but no effect on the AV node. These observations are confirmed by others.[25-31]

Sellers and co-workers found that procainamide prolonged the shortest R-R interval between two consecutive pre-excited beats by 20-70 msec in 15 of 21 patients tested. The atrial fibrillatory rate was slowed enough, however, that 1:1 conduction occurred and resulted in more rapid ventricular response in four cases.[26] Mand demonstrated an inhibitory effect of procainamide o conduction down the bypass tract. In ten of 13 patien tested, the delta wave disappeared after 10 mg/kg I procainamide; in the remaining three, the delta wav morphology changed, the PR interval lengthened an the QRS complex narrowed.[27]

The extent to which type 1 antiarrhythmics prolon the ERP of the accessory pathway is related to the initi length of the ERP.[28] The greatest prolongation occurs i patients with ERPs of 270 msec or longer; only minim prolongation occurs in those with shorter ERPs—th very patients who are most likely to benefit from ER lengthening.[32] Recently, IV procainamide was propose as a means to identify patients with an abnormally sho ERP of the accessory tract who might be at risk for suc den death. In 20 of 39 patients antegrade bypass trac conduction was blocked by 10 mg/kg of IV procainam ide; the bypass tract ERP was longer than 270 msec in 1 of these (95%). In the remaining 19 patients, there was n block after procainamide; the bypass tract ERP was sho ter than 260 msec in 18 of these (95%). These observa tions suggest that procainamide may have limite therapeutic value for patients with short accessory path way ERPs.

Despite these limitations, many authorities feel tha procainamide is the most efficacious agent for AF tha occurs in patients with a short ERP of the accessory tract Intravenous procainamide commonly decelerates th ventricular rate, presumably by increasing the ERP of th accessory pathway, and in some instances by completel blocking bypass tract conduction.[11,24,25,27,30] Our obser vations in the case reported here clearly show that pro cainamide can have important beneficial effect including an inhibition of verapamil-induced cardioac celeration. Although verapamil and procainamide wer in the plasma concurrently, procainamide not only rev ersed the accelerating effect of verapamil but slowed th ventricular rate below the baseline value (Table 1), indi cating an appreciable inhibition of conduction over th accessory tract.

In summary verapamil may have either a beneficial o adverse effect in patients with WPW and AF. Before administering oral verapamil to such patients, we would suggest electrophysiologic testing of verapamil with induction of AF to establish the safety of this medication

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Editorial Comment*

Kenneth B. Desser, M.D.

The preceding case report by Laufer and Crevey has implications for the treatment of atrial fibrillation by generalists.

During sinus rhythm there are *many* patients with the Wolff-Parkinson-White syndrome who manifest little or no abnormality on their electrocardiograms. In the current paper there were small delta waves on the electrocardiogram (ECG) and these electrical deformities may be easily missed. When such a patient has a normal sinus impulse it may: 1) conduct through the normal pathways, 2) conduct through the accessory pathway and not through the normal pathways or 3) conduct through both the normal and accessory pathways. In the first case there will be no evidence of ventricular pre-excitation on the ECG. In the second case there will be the classical hallmarks of Wolff-Parkinson-White syndrome on the ECG. In the third case there may be a shortened P-R interval, small delta wave and a QRS complex which is wider than that noted during normal conduction.

There are thousands of patients with accessory pathways who have normal ECGs or tracings with minimal alteration. When the accessory pathway is not conducting impulses it is called "concealed." If it does conduct impulses it is termed "manifest." When both normal and accessory pathways conduct simultaneously from atria to ventricles the resultant QRS complex is considered a "fusion" beat. Whether or not the fusion beat appears normal or abnormal on the ECG depends on whether the impulse is using the normal pathway or accessory pathway as its main route to the ventricle. This phenomenon has been likened to two streams of paint, red and yellow, flowing into a common receptacle. The hue of the orange mixture will depend on how much each color is contributing. It is a fact that most patients with ventricular pre-excitation have fusion beats on their ECG, thereby resulting in QRS complexes as described in this paper. As many as three out of ten patients with the Wolff-Parkinson-White syndrome have normal QRS complexes on their ECGs since they only utilize the anomalous pathway during a paroxysmal tachyarrhythmia. A normal ECG does not therefore rule out the Wolff-Parkinson-White syndrome.

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Gastroenterology

Extraintestinal Manifestations of Inflammatory Bowel Disease

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Extraintestinal manifestations occur frequently in patients with inflammatory bowel disease (IBD) and often complicate its management. The National Cooperative Crohn's Disease Study Group found them to be more common in those with colonic versus small bowel disease, and 24% of patients had at least one extraintestinal manifestation.[1] The frequency and temporal relationship of these complications have led to the general acceptance that these intestinal diseases are, in fact, systemic disorders.

In an effort to classify these manifestations in a clinically useful way, Greenstein et al.[2] used three main categories. Group A (colitis-related) include joint, skin, eye and oral mucosal abnormalities. Group B manifestations relate to small bowel pathophysiology and include malabsorption, renal calculi, gallstones and acalculous hydronephrosis. Group C includes diverse nonspecific abnormalities such as osteoporosis, liver disease, and amyloidosis.

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Arthritis is the most common systemic manifestati and may present as a migratory arthritis of the lar joints, ankylosing spondylitis or sacroiliitis. The mig tory arthritis is nondeforming, tends to remit or exac bate simultaneously with bowel disease activity, anc frequently associated with synovitis and effusion[3] (F ure 1). The back pain of ankylosing spondylitis has insidious onset and is associated with morning stiffn that lessens with activity. It tends to run a progressi and disabling course independent of bowel disea activity. Exercise, physical therapy, and an inflammatory agents are current mainstays of tre ment.[4] Patients with sacroiliitis may have pain over t affected joint, although many are asymptomatic. T diagnosis is made radiographically. As with all the arth tides associated with IBD, serologic tests for rheumato factor are negative.



Figure 1
An ankle in a young female with active ulcerative colitis shown with a pencil indenting the skin to better illustrate t obvious effusion.

Mucocutaneous manifestations include erythen nodosum, pyoderma gangrenosum, and oral aphtho ulcerations and occur in 8% to 15% of patients.[1,5] Erythema nodosum is characterized by erythematou raised, tender lesions occurring primarily on extremi extensor surfaces, usually when active bowel disease present. Any patient with erythema nodosum and co comitant, unexplained diarrhea, should be careful evaluated for Crohn's disease or ulcerative colitis.

Pyoderma gangrenosum, an infrequent complicatio may initially appear as an infected hair follicle that grov in size and drains purulent material. Lesions may eventu ally ulcerate and become gangrenous (Figure 2 Approximately 50% of patients with pyoderma gangrer osum have IBD and lesions tend to occur in those wit colitis of long duration.[6] The etiology is unknown. Ther is no effective specific therapy although control c bowel disease generally promotes skin healing. In rar refractory cases, intestinal resection has been advocate to promote healing of the lesion.[7]

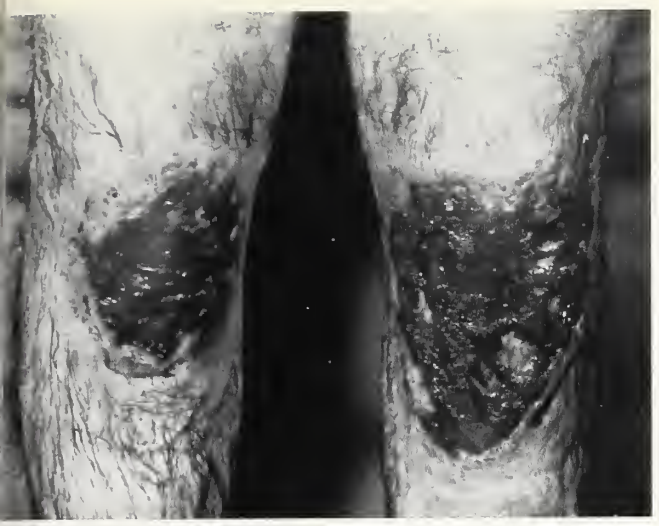


Figure 2
ilateral pyoderma gangrenosum in a middle-aged man with rohn's disease.

Aphthous oral ulcerations are a fairly common but less erious complication, tending to occur when disease ctivity is high. They may occasionally present during eriods of remission[3] (Figure 3). No specific treatment is equired, although if complicated by moniliasis, specific ntifungal therapy should be initiated.



Figure 3
Oral aphthous ulcerations in a young male with ulcerative olitis.

Inflammatory disorders of the eye occur in approximately 3% of patients.[3] Iritis and episcleritis are the most ommon abnormalities. Acutely, patients complain of lurred vision, pain and photophobia. Chronic changes ay include iris atrophy, anterior or posterior chamber dhesions and lenticular pigment deposits.[3]

Group B manifestations are directly related to pathoogic changes in the small bowel. Cholelithiasis may ccur in up to 34% of Crohn's patients with ileitis.[8] Bile alt malabsorption in the diseased terminal ileum results n bile conducive to gallstone formation.[2] Various renal isorders may complicate IBD. The enteral inflammatory process may entrap the ureter resulting in hydronephrosis. Dehydration and patient inactivity with calcium mobilization are important factors in renal stone formation. Also, fat malabsorption enhances oxalate absorption resulting in an increased incidence of renal oxalate stones.[9,10] Therapy includes methods to reduce steatorrhea, avoidance of high oxalate foods (chocolate, cocoa, tea, cola beverages, spinach, etc.) and calcium supplementation, the latter to precipitate oxalate in the gut lumen as calcium oxalate salt.[11] Cholestyramine has been reported to be of value in some patients.[9,11] Renal amyloid deposition resulting in the nephrotic syndrome is a rare side effect of IBD.

Hepatobiliary abnormalities include fat or amyloid infiltration of the liver, chronic active hepatitis, cirrhosis, sclerosing cholangitis, and cholangiocarcinoma. The overall incidence is approximately 4% and abnormalities, with the possible exception of amyloid, are more common with ulcerative colitis than with Crohn's disease.[1-3,5,12] The etiology of these hepatic disorders remains unknown and corticosteroid therapy or colectomy has little effect on outcome.[12,14]

Patients with sclerosing cholangitis present with a spectrum of abnormalities ranging from jaundice and pruritus to asymptomatic elevation of the serum alkaline phosphatase.[12,13] Diagnosis is currently made more frequently with the advent of endoscopic retrograde cholangiopancreatography. Radiographically the lesion is characterized by diffuse, marked bile duct narrowing with post-stenotic dilatation[13] (Figure 4). Results of med-



Figure 4
Endoscopic retrograde cholangiopancreatogram demonstrating diffuse bile duct narrowing and post-stenotic dilatation. The pancreatic duct is normal.

ical therapy including corticosteroids, immunosuppressives, cholestyramine and antibiotics have been disappointing.[12] Sclerosing cholangitis may run a progressive course with biliary cirrhosis, portal hypertension, and death from hepatic failure as the eventual outcome. Standard surgical therapy has included choledochoenterostomy or prolonged T-Tube drainage. Although not significantly altering the course of the disease, surgical therapy may provide relief of jaundice and pruritus if adequate biliary drainage is achieved. Recently, encouraging results have been reported with a more aggressive surgical approach, although further evaluation is indicated.[14]

A wide spectrum of extraintestinal manifestations may be seen in patients with Crohn's disease or ulcerative colitis. They may complicate the clinical course and make management of these patients a constant challenge. Although prompt recognition allows for appropriate therapy, the etiology for many of these diverse manifestations is unknown and further investigation is required to achieve a better understanding of the pathophysiologic mechanisms involved.

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Neurosurgery

"Where I Came In": A Glimpse of the History of Neurosurgery to 1940

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Abstract

Although surgeons in ancient times performed trep nation of the skull, the development of modern neur surgery required a detailed knowledge of the structu and functions of the central nervous system. This on began to be acquired in the 19th century. Progress that field, combined with the discovery of general ane thesia and of antiseptic methods, led naturally to the fir brain surgeries, of which Victor Horsley was the ou standing pioneer, and thence to the work of Harve Cushing, Walter Dandy and their contemporaries. Th review ends at 1940 when the author commenced h residency training.

Key Words: History of Medicine, Biograph Neurosurgery

The roots of cranial surgery reach down deep int prehistoric times. Trepanation of the skull was practice as early as 10,000 B.C., presumably, in some cases at leas with therapeutic intentions, since skulls have bee found with new bone at the edge of the defect. Hippo crates trepanned for depressed fracture and noted that the patient developed convulsions, these were ofte contralateral.[1] Later, Graeco-Roman physicians als operated for epilepsy and headache,[2] but, while reali ing that the brain is the organ of thought and contro bodily activity, they imagined that the seat of the emo tions was located in the diaphragm. As late as the 17t century Descartes located the seat of the soul within th pineal gland.

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At the beginning of the 19th century progress began be made. In 1811 Charles Bell suggested that the terior spinal nerve roots had a motor function. A few ars later Magendie confirmed this observation and o proved the sensory function of the posterior roots. len had shown that section of the spinal cord was llowed by both motor and sensory loss below the level the lesion, but he had no idea of the intrinsic activity the cord.[3] It was not until 1837 that Marshall Hall served that stimulation of an intercostal nerve of the capitated frog caused movements of all four limbs, dicating that a response occurred both above and low the level of sensory input.[4] Segmental spinal flexes had been described before Hall, but from this periment he reasoned, correctly, that the spinal cord uld function as an independent whole, though nor- ally subject to the controlling influence of the brain. is work foreshadowed Sherrington's ideas on the inte- ation of the nervous system, although 50 years would apse before Waldeyer proposed the neuronal theory nervous action.[5]

Observations on cerebral localization followed. It was ready known that motor hemiplegia was associated ith atrophy of the contralateral cerebral hemisphere, ut attempts to provoke the mammalian brain to spond to stimulation were unsuccessful until, in 1870, itsch and Hitzig realized that in lower mammals (cat nd dog) the motor cortex lies relatively near to the ontal pole of the cerebral hemisphere, around the uciate sulcus. They were then able to identify separate enters for the neck, fore- and hind-limbs. David Ferrier xtended this work to primates from 1875 onward.[6]

By this time the use of general anesthesia in surgery as standard practice and it was possible to envision pplying Ferrier's results to the clinical situation. In 1884 ickman Godlee, surgeon to University College Hospi- l in London, prompted by the neurologist A. H. Ben- ett, and using Lister's newly developed antiseptic echnique, trephined the skull over the right central ulcus in a patient with left-sided focal seizures, finding nd removing a glioma.[7]

Unfortunately, Godlee's patient developed a cerebral ngus and died. After this disappointment, and despite he publication in 1893 of McEwen's remarkable results n the surgery of chronic brain abscess,[8] few brain tum- rs were operated during the next decade. Although in 886 Victor Horsley was appointed surgeon to the National Hospital for Nervous Diseases in London, spe- ifically because of his interest and expertise in the urgery of the nervous system, his pleas for earlier surgi- al intervention, once the diagnosis of brain tumor had een made, went largely unheeded. Conservative physi- ians pointed to the fact that at autopsy many gliomas were widespread within the brain. Yet several of the echniques of modern neurosurgery were developed efore 1900. They included making a curved scalp inci- ion, and cutting an osteoplastic flap with a Gigli saw, the one edges being beveled outwards for ease of replace- nent. Hemostasis of the diploe, then as now, was achieved with Horsley's wax. The early surgeons attempted to deal with hemorrhage from the cerebral cortex by ligation, but Horsley is credited with suggesting the use of the hemostatic properties of crushed muscle around 1900. To minimize the danger of fungation of the brain, which had brought a tragic end to Godlee's pioneer operation, Horsley advised closing the dura completely.

Even if, however, Horsley's ideas were slow to meet acceptance within the medical establishment, they were beginning to influence young surgeons in other countries. One of these, Harvey Cushing, began his European grand tour in 1900. Cushing had been a pupil of William Halsted, from whom he had learned an obsessively deliberate and gentle surgical technique, and an intense personal involvement in all aspects of patient care. He came to London intending to work with Victor Horsley, but Horsley's peripatetic practice and somewhat disorganized life-style were not for Cushing, who left after a few days for the continent of Europe. At this time Cushing still regarded himself as a general surgeon, but it was experimental work on the nervous system which caught his attention at the various European clinics which he visited. On the basis of observations made in the department of Professor Mosso in Turin, Italy, Cushing wrote his famous paper on the response of arterial blood pressure to intracranial hypertension.[9]

Returning to England in 1901, Cushing visited the physiology department of Charles Sherrington in Liverpool. Sherrington, as I remember him from the 1930's, was not a man of particularly distinguished appearance, and he was an indifferent lecturer. But his papers and particularly his book, "The Integrative Action of the Nervous System," establish him as the greatest neurophysiologist who has yet lived. He was also a sensitive poet. Cushing's letters suggest that he considered Sherrington to be only marginally better organized than Horsley,[10] but he stayed in Liverpool for a month, during which time he came to respect Sherrington's work on cerebral localization, which was superseding Ferrier's, as Ferrier had superseded Hitzig. In return, Cushing gave Sherrington, who had never trained in surgery, advice on the technique of craniotomy in primates. From Sherrington's laboratory Cushing returned to the U.S.A.

Horsley still had 15 years to live but he had not wholly succeeded in turning neurosurgery into an accepted surgical specialty. As the years passed, his increasing involvement in politics and in the social aspects of medicine alienated his medical colleagues and ruined his practice. Nonetheless, all accounts agree that he was a fine and dedicated surgeon of impeccable ethics, most generous in giving his services freely to poor people, and his many publications show that he was also an inventive and hard-working investigator in the laboratory.[11] He excelled at excision of the gasserian ganglion, which was then the standard operation for trigeminal neuralgia. He operated successfully on several patients with pituitary adenomas, and it was at his request and to his specifications that R. H. Clarke built the first accurate apparatus for experimental stereotactic surgery around

1900.[12] In this development Clarke and Horsley were far ahead of their time. No one in England followed up their work and their apparatus was consigned to a remote closet in the laboratories of University College, London, from which it was only retrieved many years later.

Soon after Cushing's return home, he was appointed to the staff of the Johns Hopkins Hospital in Baltimore as a general surgeon, joining Halsted, William Welch and William Osler in what must have been the most remarkable flowering of medical genius ever seen in one institution. In 1907 he signalled his coming prominence by writing a monograph on Head Surgery for W. W. Keen's authoritative Textbook of Surgery,[13] and the next year he gave up the practice of general surgery to become America's first full-time neurosurgeon. At this time he also began the pioneer work on pituitary syndromes, much of which is still valid today. Specialization was also beginning to be accepted in Europe. Thierry de Martel of Paris, who graduated M.D. in 1913, never practiced as anything but a neurosurgeon. De Martel made several significant innovations, among them the adoption of the sitting position and the use of local anesthesia in major operations, thus avoiding the complications associated with the use of chloroform and ether, which were the only general anesthetic agents available then. A neurologist in Germany, Otfrid Foerster, dissatisfied with the results of the general surgeons to whom he had referred cases, taught himself to operate and so became his country's first neurosurgeon. In Sweden, Herbert Olivecrona, a big man in every sense and a magnificent technician, developed a large department in which many South American as well as European neurosurgeons were trained.

One of Cushing's first residents was Walter Dandy. Had Dandy done no more than complete his training, he would still have an honored place in neurosurgical history, for he had barely completed his residency when he and Blackfan published their fundamental work on the circulation of the cerebrospinal fluid and its implications for the diagnosis and treatment of hydrocephalus.[14] A few years later, Dandy founded the science of neuroimaging when he exploited the differential radioopacities of air and CSF to develop the technique of air ventriculography.[15] This remained an essential feature of neurosurgical investigation for 50 years. Dandy was also a pioneer of the surgery of intracranial aneurysms by direct attack, at a time when proximal ligation of the carotid artery was the accepted method. He was the first to realize the importance of vascular compression in the pathogenesis of trigeminal neuralgia, although the limitations of existing surgical technology made him treat it by rhizotomy. Also in the long and acrimonious difference of opinion with Harvey Cushing over the treatment of acoustic tumors, Dandy, the apostle of total removal, was right; while Cushing, whose intracapsular operation was technically easier, but was usually followed within a year or two by recurrence of symptoms, was wrong. Cushing's aversion to total removal arose from his reluctance to inflict a facial paralysis, this being an almost invariable sequel of total extirpation of the tumor u in 1931 Hugh Cairns deliberately identified and spa the nerve while removing an acoustic tumor.[16]

Let us not leave Cushing, however, without giving l due credit for setting standards in brain tumor surg as well as in neuroendocrinology, which were the ad ration of the whole medical world. At a technical le he was the first surgeon to insist on multilayer closur the scalp. He introduced metal clips to control hem rhage from cortical vessels, and he was quick to ad electrocoagulation for hemostasis. Since at this ti most patients were anesthetized with ether vapor, the original Bovie machines had an open spark gap, use of the electrocautery was not without its hazar remember that as a resident I used to erect a barrie wet towels between the wound and the anesthetic ap ratus, and ensure that the direction of air flow within operating room was away from the surgical field.

By the end of the 1920's neurological surgery accepted as a specialty in North America and in so European countries. Harvey Cushing and, perhaps ev more strongly, Ernest Sachs had realized the importa of developing properly organized residency train programs in which their ideas and standards were pr agated through a widening circle of pupils. The Soci of Neurological Surgeons was founded in 1920, and Society of British Neurological Surgeons in 1926. Amo the bright young men who were attracted early to n rosurgery were Gil Horrax, whom Cushing regarde the most reliable of his associates, and Charles Elsbe an early pioneer in spinal cord surgery, who was also first surgeon in the U.S.A. to employ endotracheal ins flation anesthesia. There was also Temple Fay who 1927, borrowed from the Otolaryngologists the idea keeping the operative field dry by continuous mecha cal suction. Another member of this generation of n rosurgeons, Percival Bailey, in collaboration w Cushing, published fundamental work on the classifi tion of the gliomas.[17] The world — not only neu surgery — would also be the poorer without Baile fascinating, Rabelaisian and perceptive autob graphy.[18] Two other neurosurgeons, both happily with us, began their careers during this period. Jar Gardner, a prolific and inventive writer for more thar years, extended Dandy's concept of the etiological r of vascular compression in *tic douloureux* to anot paroxysmal disorder of the lower cranial nerves — fa hemispasm. His attribution of the disorders of closur the neuraxis to the effects of fetal hydrocephalus r not be correct, but the vigor and ingenuity of his ad cacy have greatly stimulated research. Paul Bucy w with Percival Bailey, wrote a book on the intracra tumors of childhood, which is still consulted toda founded and remains the editor of the journal *Surg Neurology*.

During the 1930's Franc Ingraham became the f neurosurgeon to make infants and children his prim interest, building up a large department in Boston. M all of Ingraham's views are acceptable today. Recogr

he importance of subdural hematoma in infant mor-
ty, he failed to realize that its tendency to relapse
ılted from repeated trauma due to child abuse rather
ı from inadequate surgery. Consequently, he advo-
d unnecessarily heroic treatment for that condition.
refusal to treat the more severe forms of myelome-
gocele was also out of accord with current thinking,
ough understandable at a time when shunts for
rocephalus were primitive and inefficient. Nonethe-
, the number of pediatric neurosurgeons practicing
ay is proof that he identified a real need.

is sad to have to add that in this decade, when
rosurgery in the English speaking countries was
eloping so rapidly, adverse circumstances, some of
m political, but some, I believe, resulting rather from
structure of academic medicine on the continent of
ope, prevented surgeons there from continuing to
as important a role as they had enjoyed 40 years
ore. Continental university departments functioned
rigidly hierarchical way. The professor, who often
d lifelong tenure of his Chair, was all-powerful. Eve-
ne else was a mere subordinate, not a junior col-
gue, whose independence increased only minimally
n when the man above him died, retired or was
ply fired, at the professor's whim. This militated
inst the independent thinking which is so valuable a
dition of medical training in the English-speaking
ıntries.

his is where I came in, into a world in which the
ning antibiotic revolution was still unimagined,
od transfusion implied lining up donors outside the
erating room, and intravenous anesthesia was still a
elty. As an undergraduate, I had been a member of
last class of premedical students at Oxford University
whom Sherrington had lectured. In 1940, a few
nths after I commenced my residency training with
offrey Jefferson, he took me to a meeting of the
ciety of British Neurological Surgeons at which our
t act was to stand in commemoration of the death of
rvey Cushing, which had occurred in October, 1939.
ferson was then the most widely known in the U.S.A.
British neurosurgeons. It was he who pointed out that
ilateral frontal lobectomy may not be followed by any
vious psychological change. He was also the first to
scribe the various syndrome of compression of the
ernous sinus, and he wrote an important paper with
T. Johnson on upward tentorial herniation of the hind
in in posterior fossa tumors. Jefferson's flair for writ-
makes his collected papers, historical and philoso-
ical as well as scientific, a pleasure to read.[20]

Like many other great doctors, including Lord Lister,
ferson had little sense of time. He excused this failing
characteristic fashion: "I sometimes think that a man
o is always punctual for his appointments cannot
ve been very interested in what he was doing before."
s wit could be disconcerting. On one occasion, in
cordance with common practice in those days, I, as
nior resident, had to anesthetize a patient with a pos-
ior fossa tumor. At that time, the standard premedication was Omnopon, a morphine derivative, given with Scopolamine, but since I had had problems with respiratory depression when using these drugs, I decided to give atropine instead. Possibly the prescribed dose was exceeded, or possibly the patient was hypersensitive, but when the Master, as we all called him, exposed the brain, there was so severe a tachycardia that further progress was impossible. Realizing the probable cause of this he asked "What premedication did you order for this patient, Norman?" I seemed to hear a small voice reply from somewhere outside of me, "Atropine, sir." "But I thought," said the Master, "it was our practice to give Omnopon and Scopolamine." An even smaller voice said "Yes, sir." The ensuing pause of a few seconds seemed to last many hours. Eventually the Master spoke: "I hope, Norman, that in other respects I run my department to your satisfaction."

Contemplating the lives of the early neurosurgeons, we tend to invest them with a certain heroic quality. But they pursued the same three main goals as ourselves, and it is not least the relative importance which each appeared to attach to these goals that makes them, as individuals, so fascinating to study. There is professional excellence, without which a physician can achieve nothing, and for which the rewards are honor in the community and economic security. There is power, by which physicians can build large departments, and sometimes, as did Horsley in the extirpation of rabies from Great Britain,[10] use their authority to persuade governments and institutions to adopt wise policies. There is also the pursuit of truth. For some of us, however faltering our steps, this is the most satisfying goal of all.

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Oncology/ Hematology

Interferons in Oncology

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Introduction

Interferon (IFN) was first described more than a quarter of a century ago by Isaacs and Lindemann as a substance produced by cultured cells in response to noninfectious viruses which conveyed cellular resistance against subsequent lytic virus challenge.[1] The IFNs are now known to be a family of hormone-like cellular proteins which are produced by cells in response to a variety of stimuli. Three major types of interferon have been identified and named in relation to their major cell of origin (Table 1).

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Table 1
Major Types of Interferon

Cell of Origin	Type	Abbreviation
Leukocyte	alpha	IFN α
Fibroblast	beta	IFN β
T-lymphocyte (Immune)	gamma	IFN γ

During the 1960's IFNs were studied as crude sup natants and classified by a few chemical properties (e heat and acid stability). However, in various experim tal systems, IFN had both antiviral and antiprolifera properties. Interest increased considerably in 1970 wh interferon was found to cause a decrease in tur growth in mice. Shortly thereafter, Cantell and his c leagues from Finland developed a method to parti purify significant quantities of IFN alpha from leukocy in banked blood.[2] Although this material was expens scarce, and less than one percent pure, sufficient qua ties could be produced to initiate clinical trials. Stran and his associates in Sweden, conducted a historic controlled study of interferon as surgical adjuvant th apy in osteosarcoma.[3] While the results of that st remain controversial, the same group more clearly de onstrated anticancer activity of interferon in a limi number of patients with drug-refractory multiple m loma.[4] Studies with interferon were extensively pu cized in the lay media in the late 1970's when American Cancer Society contracted to purchase la quantities of Cantell IFN from the Finnish Red Cros initiate studies in the U.S. by Gutterman, et al.[5] a others. These efforts probably caught the public's fa because they involved the use of a normal human p tein as anticancer therapy, and there was a wave virtually unbridled enthusiasm in the news me Shortly thereafter, with added funds from Congress, National Cancer Institute also joined in this effort, wisely described their effort more briefly as a "Biolog Response Modifiers" research program rather than a interferon testing project.

While one could argue that sensationalized public does not provide the atmosphere for scholarly resear it probably stimulated the pharmaceutical industry develop better techniques for interferon productio Firms such as Burroughs-Welcome focused on lar scale techniques for production of interferons fr human cell lines in culture. Importantly, the invention the recombinant DNA technology provided a potent means for the pharmaceutical industry to produ unlimited quantities of pure IFNs in bacteria. While t potential was considered only a dream in the late 197 this dream had astonishingly become a reality by t turn of the decade. In laboratory studies, the recom nant interferons showed both antiviral and anti-tum activity.[6] Application of recombinant DNA technolo also led to the discovery that there are 16 genes codi for various subclasses of alpha IFNs which differ partia in their amino acid sequences. By 1984, industrial sc production of pure IFNs alpha, beta, and gamma had

n achieved by recombinant DNA techniques. ombinant IFN production is underway at firms such iogen, Cetus, Genentech, Roche, and Schering.

ne relative importance of identified biochemical, viral, cellular, and immune effects of IFNs to their tumor action remains obscure. Initial clinical trials n natural and recombinant IFNs have now been orted from a number of major cancer centers.[7] The pose of this article is to briefly review observations de thus far with IFN therapy and to enumerate trials ently underway with IFN at the Arizona Cancer Cen- and available for participation to physicians and ents with cancer in Arizona.

ninistration and Toxicity

he IFNs are soluble proteins and for systemic admin- ation have been active when administered by the I.V., ., and S.C. routes. Continuous infusion as well as y and intermittent schedules have all been investi- ed. Thus far, most studies of the pure recombinant erferons have used the major subclass of IFN alpha, nely IFN A (Roche) or IFNα 2 (Schering). The beta s have not exhibited good plasma levels or activity in ial trials, and the studies with IFN gamma have only ently been initiated. However, side effects of all IFNs generally similar.

ne major toxicities of IFNs are dose related, and ude fever, anorexia, weight loss, somnolence, neu- oxicity, and myelosuppression. In the initial studies of ombinant alpha IFNs, doses of up to 100 million units more have been administered to cancer patients. icities such as weight loss and somnolence are usu- dose limiting at doses greater than 36 million units ee times weekly. While fever is common during the ial week of therapy, this normally dissipates with tinued therapy. Daily doses in the range of 3 to 6 ion units are generally tolerated for prolonged peri- without significant side effects.

titumor Activity

While antitumor activity is still being assessed for IFNs, areas of activity of single agent IFN alpha are now coming clear. These are summarized in Table 2. In the a of hematologic malignancies, significant antitumor vity has been observed in chronic or low grade lym- oplasmacytic neoplasms. Thus far, a very rare entity, airy Cell Leukemia" (HCL), emerges as the one neo- sm where IFN appears to convey the greatest benefit. ients with HCL exhibit recurrent infections and sple- megaly and often have profound suppression of their nulocyte, platelet, or red blood cell counts. HCL ients are often benefitted at least temporarily by sple- ctomy, but conventional chemotherapy is rarely of benefit. The recent report of activity of natural IFN ha in HCL by Quesada, et al.[8] has now been con- med and extended by a number of workers using ombinant IFNs. HCL patients who have relapsed after enectomy usually respond to IFN. In reviewing the rature as well as abstracts presented recently at the erican Society of Hematology meeting (December 4), it would appear that over 90% of HCL patients treated with IFN achieve either complete or partial remission, marked improvement in blood counts, and elimination of infectious complications. At the Arizona Cancer Center we are treating five symptomatic post-splenectomy patients with HCL with three million units daily of recombinant IFNα A. Patients have achieved excellent remissions and normalized their blood counts within several months. Useful therapeutic effects (complete or partial remissions of at least six months duration) have also been observed with alpha IFNs in other lymphoplasmacytic neoplasms. These have included the indolent nodular lymphomas, mycosis fungoides, Kaposi's sarcoma, and multiple myeloma. In some instances, activity has been seen in patients in relapse, but more frequently tumor shrinkage has occurred in previously untreated patients with more indolent disease. Patients with rapidly growing diffuse large cell lymphomas (e.g., diffuse histiocytic lymphoma) or with chronic lymphocytic leukemia (CLL) have only rarely responded to alpha IFNs. However, preliminary reports suggest that gamma IFN may be active in CLL.

Table 2
Therapeutic Effects of Alpha Interferons in Cancer

A. Major therapeutic effects observed in almost all patients:

Hairy Cell Leukemia

B. Therapeutic effects observed in some patients:

Nodular Lymphocytic Lymphomas	Mycosis Fungoides
Kaposi's Sarcoma	Multiple Myeloma
Metastatic Renal Cancer	Metastatic Melanoma
Metastatic Carcinoid	

C. Therapeutic effects rarely observed:

Acute Leukemia	Breast Carcinoma
Chronic Leukemia	Colon Carcinoma
Lung Carcinoma	Ovarian Carcinoma

Among the various metastatic solid tumors, good antitumor activity of alpha IFNs has clearly been observed in patients with renal carcinoma. Activity has also been observed in metastatic melanoma but with lesser frequency. These IFN effects observed in the initial Phase II clinical trials could prove to be of importance, as standard chemotherapy seldom is useful in patients with hypernephroma or melanoma. At the Arizona Cancer Center we have observed useful regression of visceral metastases in both renal cancer and melanoma. In some instances, neutralizing antibodies to interferon have developed with continued therapy and have been associated with termination of remission.

It should be clear from these comments that IFNs are still investigational agents, and that the results reported, while confirmed in a number of centers, may not all translate into useful standard therapy. In the author's opinion the results with Hairy Cell Leukemia are positive enough to suggest that all patients with this disease who

relapse after splenectomy should have the opportunity to be treated with IFN.

However, a number of major questions remain to be answered in ongoing clinical trials. For example, the best schedules of IFN administration may differ for varying tumor types, and it will be necessary to compare IFN therapy to standard therapy for some types of cancer. Another important area is the integration of IFN therapy into multimodal therapy incorporating surgery, radiotherapy, or chemotherapy. Preclinical studies of IFNs suggest that they might be useful as a component of combination therapy (e.g., with alkylating agents or anthracyclines). It is of interest that IFNs have been found to have potent synergistic effects with the new polyamine synthesis inhibitor dimethylfluoro-ornithine. Combined effects have also been observed with combinations including different interferons (e.g., alpha and gamma) or between IFNs and other lymphokines. As IFNs have exhibited little or no local toxicity, topical uses of IFNs may also prove useful in early neoplastic lesions of the urinary bladder and of the uterine cervix.

An active clinical research program with IFNs is currently ongoing at the Arizona Cancer Center for selected types of cancer. Tumor types currently being studied are summarized in Table 3; referrals for interferon therapy for these tumor types are coordinated with the appropriate physician by the Cancer Center's patient referral office (626-6372). As is the case with other forms of investigational therapy, patients to receive IFN must be in good clinical condition, off any other form of chemotherapy for at least one month, and able to meet other eligibility requirements to assure that their response to therapy can be evaluated.

Table 3
Tumor Types Currently Being Studied with Interferon Therapy at the Arizona Cancer Center

Hairy Cell Leukemia	Mycosis Fungoides
Metastatic Melanoma	Multiple Myeloma*
Nodular Lymphoma*	Renal Carcinoma

Miscellaneous Neoplasms*

*In combination with alkylating agent chemotherapy.

In our IFN studies, patients are managed jointly with local referring physicians. After the initial dose-finding is completed at the Center, therapy is normally administered in the referring physician's office, with occasional returns to the Center for follow-up required to meet FDA and pharmaceutical firm requirements.

The longterm role of interferons in oncology has yet to be established. Both the apogee of enthusiasm ("It's the best thing since sliced bread!") and the perigee of despair ("I wouldn't give it to a dog!") for the IFNs have now passed, and the news media have moved on to other issues. Ongoing investigations of IFNs have now entered a phase of realistic appraisal. I anticipate th IFNs will become standard agents in the treatment cancer, with discrete indications analogous to those f all other forms of therapy.

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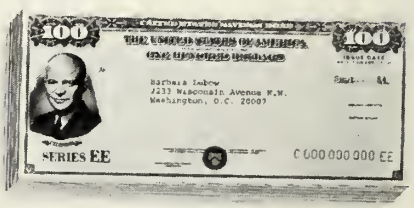


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Ophthalmology

etinal Branch Vein cclusion

anley R. Shorb, M.D.

tor:
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ostract

Retinal branch vein occlusion is discussed in terms of s diagnosis and importance not only as an eye problem significance, but also in terms of its relationship to stemic physical problems. The modern management this condition is discussed.

Key Words: Retinal Vein Occlusion, Laser Photocoagulation, Macular Edema

Obstruction of a branch retinal vein remains not only common problem seen in ophthalmologic practice, ut also remains a frustrating problem to treat. The purose of this report is to acquaint the reader with this ommon problem, suggest an appropriate workup, and iscuss current thinking about its management.

Branch vein obstruction typically occurs in middle ged or older patients and often occurs in the clinical tting of systemic hypertension. The site of obstruction pically occurs at an artery-vein crossing. The crossing at is affected most commonly lies in the superior onealf of the retina probably because arterio-venous crossgs are more common there. Flame-shaped and dot emorrhages denote the occluded area and form a secor shaped area with the apex near or at the site of the cclusion. Cotton wool spots are often seen if the retina as been rendered sufficiently ischemic. Fluorescein ngiography is helpful in determining the extent of apillary and arteriolar nonperfusion.

Vision can be permanently reduced due to macular dema if a venous branch that drains the macula is bstructed. Other less common causes of reduced ision following a branch vein occlusion are, 1) retinal eovascularization that causes vitreous hemorrhage nd/or tractional retinal detachment, 2) macular ischemia, 3) rubeosis irides with subsequent neovascular laucoma.

rom: 222 West Thomas Road, Phoenix, Arizona 85013. Reprint equests to Stanley R. Shorb, M.D., 222 West Thomas Road, Phoenix, Arizona 85013.

Case Reports with Photos

Case Report No. 1: This patient is a 56-year-old male hypertensive who was first seen October 24, 1984 with a one week history of decreased vision and an inferior visual defect in his right eye. Photographic studies show an upper temporal occlusion (Figure 1) with more cotton wool spots (retinal infarcts) than are usually seen. A fluorescein angiogram (Figure 2) of the late phase demonstrates vascular wall damage with staining and dye leakage from the compromised capillary bed and late edema of the macula.



Figure 1

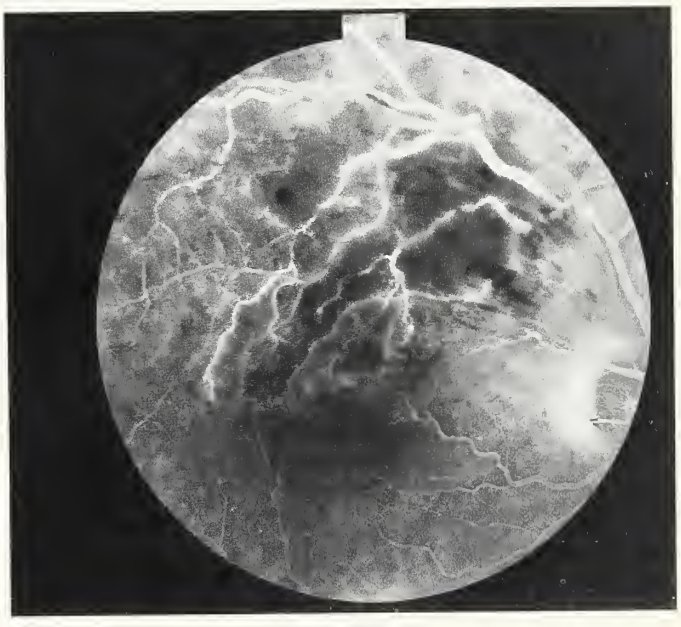


Figure 2

Case Report No. 2: This 73-year-old female with hypertension shows the more characteristic findings of a branch vein occlusion superotemporally in the left eye (Figure 3). Visual acuity never recovered because of macular edema, and this patient could be a candidate for argon laser photocoagulation.

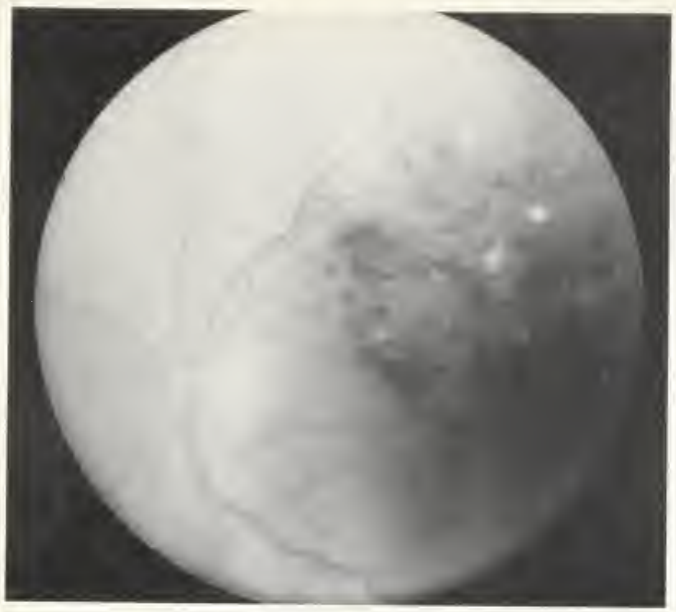


Figure 3

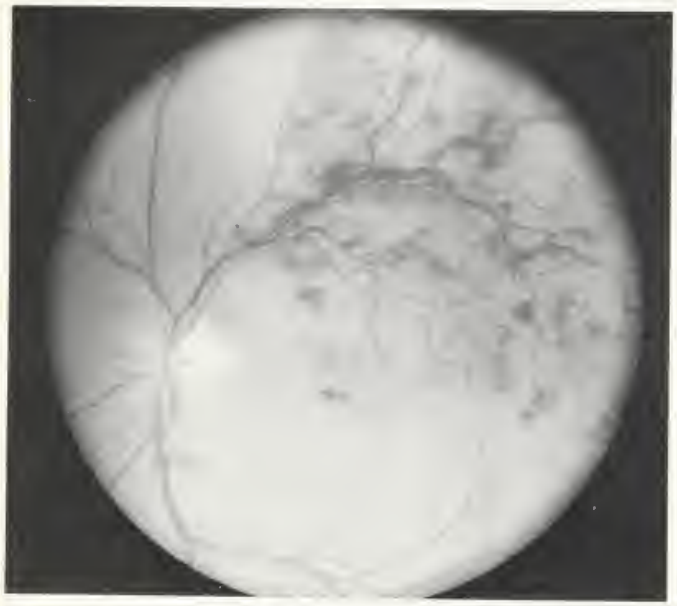


Figure 4

Case Report No. 3: A 70-year-old male with 20/50 vision initially due to superior temporal branch vein obstruction in the left eye (Figure 4) is seen to have macular edema on the angiogram (Figure 5). Borderline diabetes was detected on his physical examination. Over the past two years vision has recovered to the 20/20 level with no treatment. Collateral vessel formation has developed at the site of the obstruction as seen in the photographs (Figures 6 and 7).

Discussion

The cases presented represent both ends of the clinical spectrum in this disease. In one case macular edema has persisted so that central acuity has never recovered. The other case shows that adequate collateralization can occur so that macular edema is lessened or eliminated with retention of good vision.

Most authorities today feel that the patient who pr ents with a branch vein occlusion should have a physi examination looking particularly for hypertension signs of advanced atherosclerotic disease. Other con tions that should be sought are diabetes and hyperco ulable states. Recently it has been noted that blo viscosity was higher in branch vein occlusion patie and plasma viscosity was significantly increased as v the fibrinogen level. Also, erythrocyte deformability v decreased. The same factor that causes retinopathy the diabetic may also be operative in branch v occlusion.

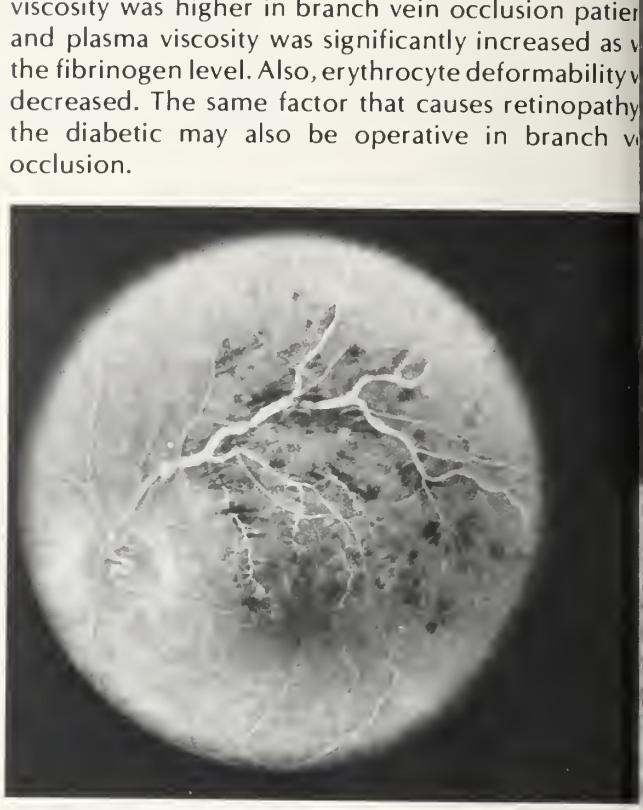


Figure 5



Figure 6

Treatment for branch vein occlusion should first b directed at detecting and treating any underlying med cal conditions such as hypertension, diabetes, etc. Trea ment with antiplatelet drugs has been suggested in a

empt to prevent further obstruction in the affected , or more importantly, in the normal eye.



Figure 7

Laser treatment has been used successfully in two uations. First, if the patient develops neovasculariza- n of the optic nerve or retina, a sector type laser ttern is applied to the area involved. Second, if macu- edema persists for some time (usually a period longer an three to six months) focal treatment can be applied, hough this has met only with fair success in terms of proving vision.

onclusion

In conclusion, any patient reporting to his physician at his vision is blurred should be checked with the rect ophthalmoscope for the classic signs of a branch in occlusion. They are usually easily seen. Detection of e disorder may allow treatment before complications ch as vitreous hemorrhage occur. Also, the discovery a branch retinal vein occlusion may alert the physician the possibility of a potentially underlying serious edical condition.

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Radiology

Case of the Month No. 76

John K. Barberii
Samuel J. Hessel, M.D.
Vincent J. Russo, M.D.
Jonathan M. Levy, M.D.

Editor:
Jonathan M. Levy, M.D.

A 72-year-old lady complained of persistent hip pain after a fall. Neurovascular examination was normal. Films of the pelvis, radionuclide bone scan and tomograms of the hip were negative. Six weeks later, her pain increased, and a repeat bone scan revealed increased uptake in the hip. Bone scan six and a half months after injury remained abnormal, and the film in Figure 1 was obtained.

What is the most likely diagnosis?

What additional study might be helpful?



Figure 1
Note lucent area with thin sclerotic rim in acetabular roof (arrows)

From: The University of Arizona School of Medicine (JKB), and the Departments of Diagnostic Radiology (SJH,JML) and Orthopedics (VJR), Scottsdale Memorial Hospital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

Answer: Occult fracture of the acetabulum with communicating subchondral cyst.

Figure 1 shows joint space narrowing of the right hip with sclerotic changes in the roof of the acetabulum, and an acetabular cyst (arrows). Arthrogram film (Figure 2) demonstrates communication between the joint space and the cyst, which fills after exercise.



Figure 2
Arthrogram film after exercise shows contrast material in subchondral cyst (arrows)

Occult fracture of the acetabulum presents with a history of fall, persistent pain and negative routine films of the hip. Up to 29% of such fractures are missed on the single AP film. Posterior oblique views, tomography or bone scan are required to demonstrate the facture. Hematoma or swelling on the medial quadriangular surface of the ischium, at the origin of the obturator internus muscle, may be the only clue on the AP study. Acceptable treatment of nondisplaced acetabular fractures includes one week of traction, followed by six to eight weeks of non-weight bearing. Degenerative arthritis is an unusual complication.

Another finding for this patient is the appearance of the subchondral cyst seen in Figure 1 as a lucency superior to the roof of the acetabulum, and lateral to the ilioischial line. This cyst, which fills with contrast in Figure 2, has the typical radiographic appearance of a pyriform radiolucency, between 2 and 20 cm. in diameter, accompanied by joint space loss and bony eburnation. Communication with the joint space is very common at some point during pathogenesis.

Two theories explain the evolution of subchondral cyst. The theory of synovial intrusion postulates that physical stress on the articular cartilage leads to its degeneration, allowing penetration of synovial fluid into subchondral bone, creating a communicating cyst. These cysts may later become occluded with fibrous material and cease to communicate with the articular space. The theory of bony contusion suggests that car age loss also occurs during stress, but that eroded car age allows subchondral bone to fracture under stre leading to necrosis of bone and cyst formation. The ti course in this patient is consistent with just such a fr ture and cyst formation. Opinions on these theor differ, but significant numbers of studies indicate t both these theories are simply different pathophys logic pathways to reach a similar result in post-trauma degenerative joint disease.

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Special Article

oes Arizona Really Need lore Physicians?

tty F. King, M.S.P.H.
zabeth A. Appel, B.A.
ane Hedgecock, M.S.P.H.

stract

Despite the increasing national supply of physicians, izona, like some other states, is experiencing a maldis- bution of physicians because most practice in more fluent urban areas. During a ten year period, the two etropolitan counties in Arizona showed major primary re physician and general population increases; how- er, in five rural counties, population growth rates ceeded the percentage increase in primary care physi- ans. This article discusses the impact of strategies to fluence physician maldistribution in Arizona. The ational Health Service Corps and Arizona Student Loan ograms assign providers to designated shortage areas. ne University of Arizona's College of Medicine is tively developing educational programs to encourage udents and health professionals to choose careers in imary care in underserved areas in an effort to influ- nce location decisions.

Key Words: Arizona; Physician Supply; Medically nderserved Area; National Health Service Corps; anpower Distribution.

troduction

The relative supply of physicians in the United States creased during the 1970's. With more federal support r medical education during the 1960's and early 1970's, edical school enrollment doubled, while the number foreign medical graduates practicing in this country oubled. In 1980, the Graduate Medical Education ational Advisory Committee (GMENAC) predicted an xcess of 70,000 physicians by 1990.[1] A salient policy esulting from this projection is the extent to which this oversupply will help reduce the existing geographic maldistribution of primary care physicians, which results from too many physicians considering practice in relatively affluent urban and suburban areas. Newhouse and Schwartz, proponents of competition, argue that primary care services will become increasingly available in underserved areas in direct proportion to the increased supply of physicians.[2,3] Fruen and Cantwell, on the other hand, cite the slower rate of increase in numbers of physicians in poor urban and remote rural areas over the past five years as evidence that many such areas will remain underserved.[4] The 1970's brought much progress in addressing the manpower needs of the U.S. rural populations. However, rural health researchers feel that reports projecting a physician surplus for the 1990's have not effectively resolved the problems of availability, accessibility, and inequity of health services in rural areas.[5]

This paper examines the projected availability of primary care physicians for Arizona by describing:

1. Trends in Arizona's population and distribution of physicians;
2. Federal and state programs operating in Arizona which are designed to promote an equitable physician distribution; and
3. Educational programs at the University of Arizona's College of Medicine designed to influence physician location decisions.

Arizona's Changing Distribution of Population and Physicians

Geographically, Arizona is a rural state with 25% of its population spread over thirteen rural counties representing approximately 84% of the land area. Demographically, Arizona is metropolitan with over 75% of the population living in the two urban counties, Maricopa and Pima, where the cities of Phoenix, population 841,200, and Tucson, population 359,855, are located respectively.

Arizona, the second fastest growing state in the country from 1970 to 1980, reflects the nationwide trend of metropolitan to nonmetropolitan migration.[6,7] Indeed, the fastest growing regions in Arizona between 1973 and 1983 were Arizona's northern rural counties and the suburban communities outside of the Phoenix and Tucson city limits. During this period, Mohave County grew 75%, Apache 44%, and Yavapai 53%. The cities of Tucson and Phoenix had percentage population increases of 26% and 30% respectively, while their larger metropolitan areas experienced growth rates of 126.2% and 84.7%. The average population increase in rural areas was 66%, exceeding the state average of 53%.

Changes in the distribution of physicians practicing in Arizona were examined for five primary care specialties —internal medicine, pediatrics, obstetrics and gynecology, family practice and general practice. The numbers of physicians serving Arizona in 1973 and 1983 were obtained from the Arizona Board of Medical Examiners. Because physician distribution is illustrated by physician to population ratio, Table 1 combines the population

om: The Rural Health Office, Department of Family and Commun- y Medicine, College of Medicine, University of Arizona Health Scien- es Center, Tucson, Arizona 85724. Reprints will not be available from ne authors. The views expressed in this article reflect those of the uthors. Address all comments to Diane Hedgecock, Rural Health ffice, 3131 East Second Street, Tucson, Arizona 85716. The Rural ealth Office has a contract with the Department of Health and uman Services, *HHS Contract 240-83-0048*, to provide technical servi- es to National Health Service Corps sites in Arizona.

Table 1
Population to Primary Care Physician Ratio in Arizona
1973-1983

County	Population/ Primary Care Physicians Ratio-1973	Population/ Primary Care Physicians Ratio-1983	% Change
Apache	4389:1	3161:1	+28%
Cochise	4144:1	2760:1	+33%
Coconino	1814:1	1854:1	-2%
Gila	2018:1	2294:1	-14%
Graham	2337:1	3457:1	-48%
Greenlee	1933:1	2400:1	-24%
La Paz (see note)			
Maricopa	1483:1	1354:1	+9%
Mohave	3777:1	2055:1	+46%
Navajo	2977:1	2329:1	+22%
Pima	1279:1	1232:1	+4%
Pinal	1872:1	2611:1	-39%
Santa Cruz	2357:1	5550:1	-135%
Yavapai	1777:1	1600:1	+10%
Yuma	2642:1	2069:1	+22%
Arizona	1590:1	1396:1	+12%

Note: La Paz County statistics are included in Yuma County population to primary care physician ratios.

and physician data to summarize the change in population per physician by county between 1973 and 1983.

Using the five primary care specialty categories, there were 1,336 primary care physicians in Arizona in 1973 and 1,988 in 1983, an increase of 49% over the ten year period. Thus, the percentage increase of primary care physicians (49%) was 4% less than the statewide population growth rate (53%) during this period. The ratio of population to primary care physicians presented in Table 1, indicates that the statewide ratio improved by 12% between 1973 and 1983.

Between 1973 and 1983, Maricopa and Pima Counties experienced respective increases of 55 percent and 41 percent in their physician population. Among the rural counties, Mohave and Apache had the greatest increases in population and also experienced the greatest percentage increases in physicians. However, population growth rates exceeded the percentage increase in primary care physicians in five primarily rural counties: Gila, Graham, Greenlee, Pinal, and Santa Cruz. These same counties are without a major population center (i.e. with a population greater than 20,000) within their geographic boundaries. This finding supports the conclusion of Fruen et al. that counties with the smallest populations and numbers of physicians have shown the least improvement in physician densities. The following sections of this article will describe efforts made to redress these imbalances by the federal and state governments and by the University of Arizona's College of Medicine.

Federal and State Initiatives

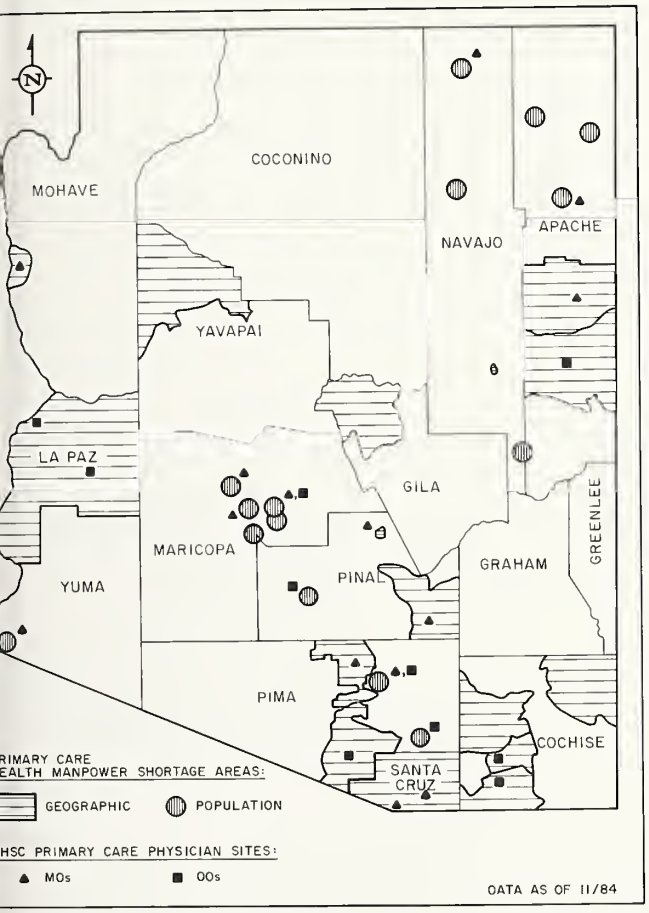
National Health Service Corps

As stated earlier, the federal government sought t increase the total supply of physicians by investing medical education. Building on these efforts, new strat gies emerged to better target the specialties and geogr phic distribution of these graduates. The most ambitiou of these was the National Health Service Corps (NHSC created in 1970. Its goal was to improve the delivery health services to persons living in underserved com munities by providing health professionals under fe eral auspices. The act was modified in 1972 to establis the Public Health and National Health Service Cor Scholarship Training program under which medic school scholarships were awarded to applicants agre ing to practice in underserved areas following residenc training. These applicants must agree to work one ye for every year of scholarship support, the minimu scholarship loan being two years. The Health Professio Educational Assistance Act of 1976 expanded the sch larship program's budget and scope.

Significant characteristics of the NHSC program in th last five years include: 1. Reduction in the number new scholarships awarded. 2. Stricter programmati definitions of Health Manpower Shortage Are (HMSA's, the federal designation necessary for place ment of an NHSC physician). 3. An increased emphas on the Private Practice Option, the alternative for sch larship recipients which permits them to establish pract ces in shortage areas as private practitioners instead of a federal employees. 4. Emergence of the largest numbe

scholarship recipients in the program's history. 5. centralization initiative in which 28 states, including zona, have assumed responsibility for the administra- n of the NHSC program.

Map 1 displays the thirty-one areas in Arizona which federally designated as primary care Health Man- wer Shortage Areas (HMSA's) and the location of HSC primary care physicians in them. Approximately % of Arizona's population inhabits these shortage eas. Shortage areas are defined by federal guidelines those census areas that are "rational" for the delivery primary health care services, often measured by a rty minute commuting time to the proposed health re delivery site. HMSA's can also be designated based on barriers created by geography or by population oup characteristics.



Map 1
Location of NHSC Primary Care Physicians in Arizona

Do the National Health Services Corps physicians in rizona contribute to correcting the maldistribution? n examination of the distribution of NHSC physicians Arizona suggests that they do reduce the overall need r more physicians but, more importantly, that they do in the most underserved rural areas. Fifty-two percent NHSC allopathic physicians are in rural areas, as com- ared to 12% of Arizona's non-NHSC primary care hysicians.

Despite the positive influence of the NHSC in rural rizona, many communities in need of a physician remain undesignated. Furthermore, many other designated communities have never been able to recruit an NHSC physician. Other communities have been financially unable to support an NHSC physician who wished to remain in the community upon completion of his/her federal obligation. It is unlikely that these same communities, because of their geographic isolation, small size or particular population and social characteristics will obtain physicians simply through diffusion from market forces.

Arizona Student Loan Program

The Arizona Student Loan Program was established in 1977. State funds provide loans to students attending the University of Arizona's College of Medicine. These loans have similar requirements to the NHSC program.

In July 1978 the Arizona Legislature adopted criteria for the designation of state shortage areas for primary care physicians. Any area having 85% or less of its estimated demand met for primary care physicians may be designated as medically underserved by the Arizona Department of Health Services. Federal HMSA's also qualify as sites for participants in the Arizona Student Loan Program.

Recipients are expected to locate in an underserved area within three years of completion of undergraduate medical education. A total of 45 students have received scholarships through this program. Of this group, 32 are currently in residency training. Since all graduating students with loans have entered residencies, 1984 was the first year in which placements occurred. This state-initiated program will reinforce the NHSC initiative and should begin to supply physicians to medically underserved areas in the future. Its long term impact will be observed by rural health researchers.

Rural Health Office

In 1982 the University of Arizona's Rural Health Office received state funding. The office's overall goal is to improve primary health care services in rural areas. Efforts to achieve this goal have included physician placement and retention activities including the NHSC contract, physician placement conferences, Spanish immersion courses for providers serving large Hispanic populations, technical assistance in practice and clinic management, and participation in the Arizona Association of Community Health Centers. These programs provide the necessary support function to improve rural health systems and establish a solid infrastructure to improve health care delivery systems.

Educational Programs

University of Arizona's College of Medicine

In addition to federal and state efforts to improve the supply, specialty mix and distribution of physicians, many educational institutions have developed their own strategies. The University of Arizona's College of Medicine was established in 1967 with a mandate to train primary care physicians. The medical college has three affiliated primary care residencies in Tucson: Family Practice, Internal Medicine and Pediatrics. Four

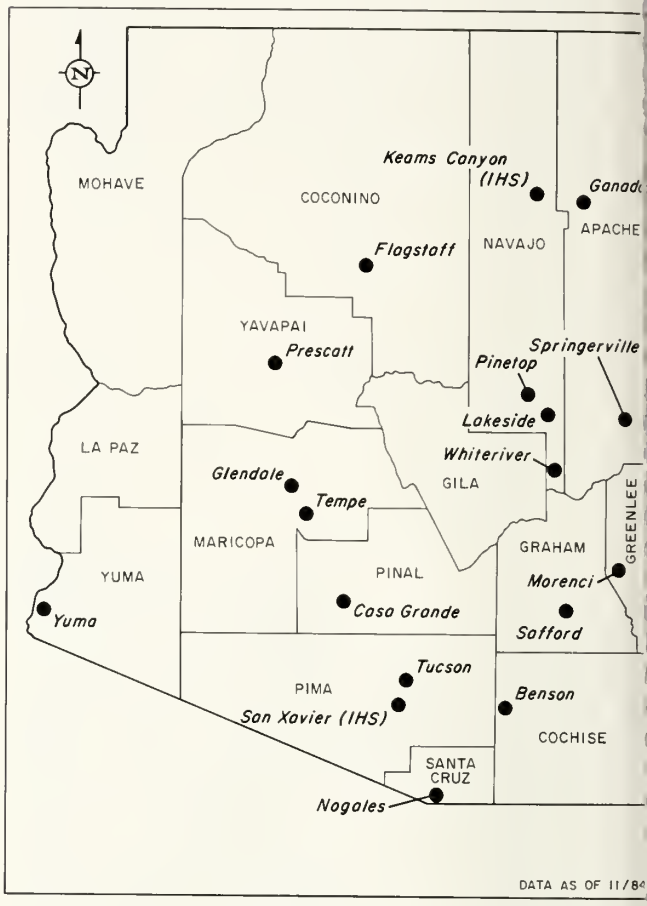
community-based family practice residencies have also been established in Phoenix.

In order to describe the success of the College of Medicine in fulfilling its mandate to train primary care physicians for Arizona, current mailing addresses (which may not totally reflect practice location addresses) were obtained from the College of Medicine's Student Affairs Office on all alumni from the classes of 1971 through 1980 (more recent graduates would most likely still be in residency training). Fifty-five percent of the College of Medicine alumni elected to leave the state, as shown in Table 2. Of those who remained in Arizona, 85% located in Tucson or Phoenix.

Because physicians tend to begin practice near the site of their postgraduate training, initial placements of graduates of the Family Practice residency program, which began in 1971, were also reviewed. Fifty-five percent of the 115 trained residents left the state to practice. Of the remaining 43 residents, 60% were located in Phoenix or Tucson, leaving only 17 physicians (or 40% of those remaining in the State) working in nonmetropolitan Arizona. In examining the number of physician shortage areas designated by the state and the federal government, it would appear that the training programs of the College of Medicine are minimally impacting on the rural underserved areas of the State.

Preceptorship Program

The Family Practice Preceptorship Program was begun in 1975 with funding from a Family Medicine Education grant. Since that time it has evolved to become a significant factor in exposing physicians-in-training to role models in rural settings. Approximately twenty-three physicians throughout Arizona serve as preceptors during this fourth year elective rotation lasting six weeks. Eighty percent of the preceptorships are located in rural areas (Map 2). The Preceptorship Program will accommodate thirty-six students this year, 1984-85. Students spend an average of six weeks in a community setting seeing patients under the supervision of a physician preceptor. The Program's goal is to provide students with a comprehensive exposure to the family practiti er's personal and professional life. It is a popular a well-received rotation. For example, fourteen stude from the Class of 1984 entered Family Practice resid cies; twelve participated in the Preceptorship Progra Such affiliation with an academic medical center is a regarded as one positive factor for encouraging ph cians to remain in rural areas. This program illustra how a medical college can use the medical educat process to build bridges to community settings.



Map 2
Rural Preceptorship Program Sites in Arizona

Table 2
Location of University of Arizona Physician Graduates

	Primary Care Physicians	Specialty Physicians	Total
College of Medicine Alumni			
Urban*	80% (89)	90% (82)	85% (171)
Rural	20% (22)	9.9% (9)	15% (31)
Total	**(111)**	**(91)**	**(202)**
Family Practice Residents			
Urban*	60% (26)		
Rural	40% (17)		
Total	**(43)**		

*Maricopa and Pima Counties

mmitment to Underserved People

Described recently in the June 1983 issue of *Arizona edicine*, the Commitment to Underserved People U.P.) Program was initiated in 1979 through the Colle of Medicine to build on the career goals of students o wish to address the problem of geographic maldisbution of physicians. The four year curriculum ludes peer and faculty support sessions, relevant akers and readings, and elective field opportunities provide direct services to medically underserved popations. The purpose of this unique program is to suprt students who are interested in cross-cultural or al medicine and who wish to adopt the community ented primary care style of practice.[8] Approximately % of each medical class participates in the program.

uthern Arizona Health Education Center (SAHEC) Program

The University of Arizona's College of Medicine has cently been awarded a federal grant to develop a ltidisciplinary medical education program in four unties in Southern Arizona. The primary purpose of s program is to develop primary care curriculum for edicine, nursing, pharmacy, social work, allied health, c., in order to prepare health professionals through aching and on-site residencies to serve in rural and/or edically underserved areas. This particular project will ve a border health orientation, specifically in the pes of recruiting and retaining medical manpower rough an effective health professions training proam for this region.

scussion

Up to now, it appears that the overall supply of physiins in Arizona is keeping pace with the increasing pulation. Because Arizona is an attractive state, this nd should continue. However, in spite of the proams described previously, the relative supply of physiins is not keeping pace with population increases in any rural communities.

The availability of physicians in communities with pressed economies, largely due to setbacks in the pper industry, is decreasing. In the fastest growing ral counties, the population and physician increases e more consistent. These findings suggest that positive onomic forces are related to the increase in physician pply in parts of rural Arizona. The State of Arizona has ken significant steps to improve physician distribution. this point the National Health Service Corps has sumed the leadership to impact on this maldistribun. In the future, federal and state programs should so address specialty and cultural distribution criteria. r example, Arizona's population is unevenly skewed ward the elderly, and particular attention must be paid geriatric primary care and related specialties. Also due immigration, largely from Mexico, rural communities ong the border experience greater need for Spanishaking, cross-culturally oriented physicians.

onclusions

This paper has examined the question, "Does Arizona ally need more physicians?" Perhaps in contrast to me other areas of the United States, Arizona will require more physicians to keep pace with its rapidly increasing population. In analyzing the above programs, simply increasing the supply of physicians will not meet the needs of all of Arizona's citizens, especially those in the extremely underserved areas. Efforts must be focused on improving training, encouraging primary care specialties, providing incentives for equitable geographic distribution, and improving data collection in order to evaluate progress toward better access distribution and specialty mix. While Phoenix and Tucson are overdoctored, Arizona's need for more physicians in rural communities is obvious, and likely to continue.

As the state and federal governments continue to sponsor programs that facilitate the practice location decision of primary care physicians toward rural areas of Arizona, additional manpower planning and site needs assessment will be required. Currently, federal shortage designations call for considerable community initiative. Population-to-provider ratios are fluid. Therefore, it is critical that population groups and geographic areas suffering from a shortage of accessible health care services be clearly identified. However, community initiative, although highly desirable, can be made more effective with the assistance of manpower analysis. The Rural Health Office has stated as one of its primary goals to assist the state and local communities in developing a better data collection system that accurately reflects areas of physician need.

The Rural Health Office is concerned that professionals, policymakers, administrators and legislators not overlook the continued manpower needs of rural areas because of a predicted physician surplus. The 1970's had a significant impact on rural physician manpower distribution. The 1980's, however, have brought decreased funding and support for rural community health centers, the National Health Service Corps, innovative models in continuing and medical education, primary care training programs, and area health education centers — in summary to the very programs which have led physicians to locate in rural areas. The Rural Health Office of the University of Arizona will continue to work with professional associations and other health agencies to address the issue of physician maldistribution in Arizona, seek the assistance of legislators for the support of effective programs and innovative approaches to this problem, and work to involve all concerned organizations and individuals in recognizing the health needs of rural Arizonans. This mission is an appropriate challenge for the Rural Health Office.

Note:

Persons interested in additional information on how to participate in any of the programs cited in this article should contact the authors at the University of Arizona's Rural Health Office.

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Medical History

Extracts from the Publications of the Arizona Medical Association

(Continued)

John W. Kennedy, M.D.

We continue highlighting the history from the publications of the Arizona Medical Association, beginning with the year 1931.

News Items 1931

In the January issue of *Southwestern Medicine* it was noted that the Grunow Memorial Building in Phoenix had been completed. Dr. W.O. Sweek was the dominant influence and sometimes the clinic is known as the Sweek-Grunow Clinic. Mr. Grunow's gift included the building and laboratory equipment. Staff members were listed as: W.O. Sweek and Guy C. French, Surgery, Win Wylie, Diseases of Women, Floyd A. Sharp, Obstetrics, William B. Kingsley, Eye, Ear, Nose and Throat, H. J. McKeon, Chest Diseases (the only survivor in 1984), John A. Lentz, Dentistry, Louis B. Baldwin, Internal Medicine, David M. Davis, Urology, Paul H. Guttman, Clinical Laboratory, and Percy Brown, Radiology. These were the original members of the so-called Grunow Clinic. In reality it was a loose organization in which each individual did his own financial thing. It was not a clinic concept as the Mayo Clinic. The Professional Building at 15 East Monroe, Phoenix had been completed and a complete list of the original occupants given.

The Board of Medical Examiners accepted applicants, Palmer Dysart, M.D., a graduate of Northwestern Medical School, 1930, David E. Brinkerhoff, M.D., Stanford, 1929, and Kenneth A. Herbst, University of Minnesota, 1930.

The Arizona Medical Association held its fortieth meeting in Nogales in May of 1931. Dr. Clarence Gunter of Globe was elected President. Maricopa County Medical Society became incorporated and adopted a revised constitution on May 11, 1931, and in Volume 15 of *Southwestern Medicine* the entire constitution was printed, rather lengthy.

An editorial stated "A history of Arizona physicians and Arizona medicine is in the course of preparation by a member of the editorial staff of *Southwestern Medicine.*" This was the redoubtable Dr. Orville Harry Brown of Phoenix. Many years later the personal collection of Dr. Brown was discovered in the offices of the State Medical Society.

It had been bound into volumes and added to, at intervals, during later years and now reposes in the special collection in the library of the School of Medicine in Tucson. It is due to Dr. Brown, Dr. Whitmore and Dr. Watkins of that era that a great deal of information is extant (the same cannot be said of the present era).

The basic science bill was again introduced into the legislature. It would require all applicants for medical licensure to pass the basic science examination on anatomy, physiology, chemistry, bacteriology, pathology and hygiene. It was introduced by Senator T.J. Bouldin of Navajo County, a practitioner in St. Johns, Arizona. Also reported in the same issue, Dr. Bouldin had spent two months in Phoenix acting as senator from Apache County to the State Legislature. Dr. O.C. Patton of Ajo was also a member of the same legislative body.

Malpractice suits were reported in detail by the Committee on Medical Defense and this year they reported that Drs. Laugharn, Quinn and Gugle's suits had apparently been dropped. In a case involving Drs. Flannigan and Melick versus A. Ruseville, it was alleged in making a series of x-rays the patient was injured. This case was dismissed. Since its inception, the Medical Defense Committee had probably not lost a case.

Hay fever presented such a public health problem in El Paso, Texas, the community removed all ragweeds from the area. The editor of *Southwestern Medicine* held this up as a progressive attitude and said that nothing like this had occurred in Arizona.

John W. Flinn, M.D., of Prescott presented a paper on The Scientific Treatment of Tuberculosis stating "Absolute rest in bed and then gradual ambulation is the method of choice."

Each member of the Arizona Medical Association received a form to fill out giving personal and educational data to be used as a part of the Orville Harry Brown collection in the History of Medicine Arizona. The editor then made anotl plea that doctors fill these out and se them in.

News Items 1932

In an editorial on "An Attack of Ethi Heeby Jeebies," the editor gave a reso tion passed by the Maricopa Cou Medical Society in 1908 on unprof sional advertising, in which, if convict a member was threatened with expuls from the society and further stated t twenty-five years later there had still be no action taken against those membe There was also an editorial concern the problems facing the Arizona Medi Association. Arizona was overrun b horde of nonmedical practitioners o cultural type. A basic science law v badly needed in order to help control t problem. There were some proble with the Industrial Commission. "All which might be written with some valic fifty years later." There apparently v some widespread dissatisfaction abc the Industrial Commission and an init tive on the ballot to have the commissi obliterated. The editor thought this v not justified as the Industrial Commissi served a useful purpose and should retained.

R.J. Stroud, M.D., of Tempe v reported as chairman of the Republic Central Committee. At the time he v president of the Maricopa County Me cal Society, on the Legislative Committ of the Arizona State Medical Society a secretary of the Board of Health unc Governor Phillips. Noted on the natio scene, the secretary of the Department Interior under President Coolidge was Hubert Work, M.D., and under Preside Hoover, Ray Lyman Wilbur, M.D. Ea was an ex-president of the Americ Medical Association.

Jane Ryder of the State Laboratory Tucson made some notes on undula fever. She reviewed some of the histo and noted Alice Evans' contribution the cultural similarity of abortus in catt and melitensis from goats, and dre attention to the human cases from drin

raw milk. In 1911 Drs. Looney and nt of Prescott first drew attention to occurrence of the disease in Arizona reported cases from Yavapai, Wilcox Cochise counties, the San Pedro Valnear Winkleman and from Tucson, staff, Morenci and the Salt River Val- (Remember that at one time there e more goats than people in Arizona.) hn Pennington, M.D., urologist ted in Phoenix for practice with Dr. id M. Davis, in the Professional Build- Trevor G. Browne, M.D., a graduate McGill in 1922 located in Phoenix to tice pediatrics. The death of William de Ellis, M.D., who came to Arizona in and served as City Commissioner noted.

r. Orville Harry Brown of Phoenix some notes on "The Climate Factors he Salt River Valley as Therapeutic ." He noted there was plenty of sun- e, low humidity, fresh fruits and etables. But it has always been the ten- cy of physicians in the East to keep ding ailing patients to the West; first to prairie states, then to Kansas and orado and now Arizona and New xico. He noted that climate was no stitute for good medical and surgical e and many sent for the climate alone e without finances creating a burden the communities into which they rated.

he secretary of the Board of Medical miners, Dr. B.M. Berger, was having uble with his budget stating that the ce had been closed six weeks begin- g July 1, 1931 because of lack of funds. stated that the AMA directory in 1931 orted four hundred ninety-four doc- in Arizona with a population of four ndred thirty-five thousand. Four ndred fifty-three of these doctors had en licensed in the last ten years. He ught that was too many, noting that reciprocity agreement with Sonora, xico was shut off by the Mexican Fed- l Government. He continued by saying one hundred and two physicians had en licensed in the last two years and meant to him there would soon be an r supply. (Remember this is the era of Depression). Commenting on the dical library in Phoenix, W. Warner tkins, the editor of *Southwestern dicine* wrote, "When the present edi- was elected in 1912, duplicate hange journals were sought—one for El Paso Medical Library established ny years ago, and another for the Pho- x Library. The Phoenix Medical Library t rented space but found this too pensive, then moved to a room in St. eph's Hospital, rent free. With the mpletion of the new Professional ilding, a club room had been provided the Maricopa County Medical Society the top floor and had been refur- hed as a library and book stack.

Briefly Noted



Looking fit and happy, Dr. Robert Daehler and daughter Kirsten, at the completion of the Tucson Marathon. Kirsten ran the entire race and her father joined her for the last ten miles. This father-daughter team is now training for the Boston Marathon.

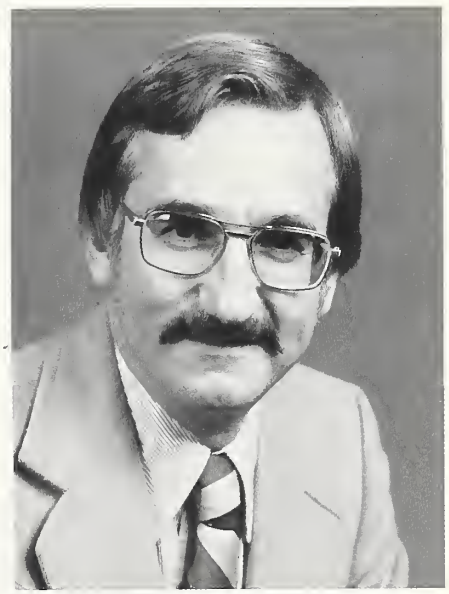
Thomas E. Bittker, M.D., Phoenix, has been elected to Fellowship in the American Psychiatric Association.

Robert T. Daehler, M.D., Phoenix, participated in the Fiesta Bowl Marathon and with his daughter, Kirsten, will enter the Boston Marathon in April.

Robert E. Kravetz, M.D., Phoenix, has been elected a Governor of the American College of Gastroenterology for the State of Arizona at the College's recent annual meeting in Toronto, Canada. As a Governor, Dr. Kravetz represents College members in Arizona on the Board of Governors, an administrative body of the College, composed of Governors throughout the United States, Canada, and other countries.

Ronald P. Spark, M.D., Tucson, is the author of an article, "I'm a Media-Doc and It Feels Fine" which appeared in the January 1985 issue of *Pathologist*. In his article, Dr. Spark urged pathologists to get involved in promoting the profession's image and provided a number of effective communications tips. Dr. Spark is President of the Pima County Medical Society and serves on the ArMA Public Relations Committee.

James C. Zemer, M.D., Phoenix, has been elected chairperson of the Board of Directors of St. Joseph's Hospital and Medical Center, Phoenix. Dr. Zemer has served as president of the Maricopa County Society of Anesthesiologists (1973), Arizona Society of Anesthesiologists (1977-78), and the Far Western Medical Association.



James C. Zemer, M.D.
Elected Chairperson of Board of Directors of St. Joseph's Hospital and Medical Center, Phoenix.

ArMA members honored at the 1984 Annual Meeting and Dinner of the Maricopa County Medical Society are: **Leland L. Fairbanks, M.D.,** The Clarence Salsbury Medal for his campaign to educate the public about the dangers of smoking; **Clyde W. Kurtz, M.D.**, The Joseph Bank Medal for longtime diligence in presenting physicians' point of view in the Arizona Legislature; and **Ashton B. Taylor, M.D.**, The Doctor Joe C. Ehrlich Medal for his many years of clinical excellence.

The Arizona Medical Association welcomes the following new members:

Active Members
Maricopa
Joseph Albert Callan, M.D.
Internal Medicine — Occupational Medicine
P. O. Box 8000 MS-A*-30, Phoenix
University of Minnesota Medical School - 1954

William T. King, M.D.
Radiology
1800 East Van Buren Street, Phoenix
University of Mississippi School of Medicine - 1974

Nathan Laufer, M.D.
Cardiovascular Diseases — Internal Medicine
333 East Virginia Avenue
No. 221, Phoenix
McGill University Faculty of Medicine - 1977

Steven Earl Liston, M.D.
Diagnostic Radiology
5620 West Thunderbird Road, Glendale
University of New Mexico School of Medicine - 1971

Paul K. Sawrey, M.D.
Cardiovascular Diseases — Internal Medicine
1010 East McDowell Road,
No. 204, Phoenix
Queen's University
Ontario, Canada - 1979

Lawrence D. Sills, D.O.
Family Practice — General Preventive Medicine
14640 North Tatum Boulevard, Phoenix
Michigan State University College of Osteopathy - 1982

Pima
Michael W. Cohen, M.D.
Pediatrics
529 West Wetmore Road, Tucson
Howard University College of Medicine - 1968

Kenneth A. Conrad, M.D.
Internal Medicine
University of Arizona Health Sciences Center, Tucson
University of Pennsylvania School of Medicine - 1972

Pedro L. Escobar, M.D.
Physical Medicine and Rehabilitation
University of Arizona Health Sciences Center
Facultad de Medicina de La Universidad Del Valle, Colombia - 1964

Rasiklal B. Ganatra, M.D.
Radiology
1011 North Craycroft,
No. 202, Tucson
Medical College, Baroda University, India - 1971

Steven M. Joyce, M.D.
Emergency Medicine
University of Arizona Health Sciences Center, Tucson
Ohio State University College of Medicine - 1979

Stephen B. Pozez, M.D.
Gastroenterology — Internal Medicine
5551 East Hampton Avenue,
No. 3H, Tucson
University of Kansas School of Medicine - 1978

John C. Sutherland, M.D.
Pathology
University of Arizona Health Sciences Center, Tucson
Medical College of Wisconsin - 194

Service Members
Maricopa
Thomas W. Butler, M.D.
Family Practice - Aerospace Medicin
United States Air Force Hospital, Luke Air Force Base, Phoenix
University of Arkansas College of Medicine - 1981

Pinal
William L. Bartholomew, M.D.
Family Practice
P. O. Box 147, Mammoth
Hannemann Medical College and Hospital - 1981

Resident Members
Maricopa
Joseph M. Leeba, M.D.
Radiology
St. Joseph's Hospital, Phoenix
Medical College of Ohio at Toledo - 1982

David Earl Pearce, M.D.
General Surgery
Veterans Administration Medical Center, Phoenix
University of Florida College of Medicine - 1978

Joseph M. Zabramski, M.D.
Neurology Surgery
St. Joseph's Hospital, Phoenix
Case Western Reserve University School of Medicine - 1979

Pima
Ellinor M. Angel, M.D.
Pathology
University of Arizona Health Sciences Center
College of Medicine - 1979

Library Talk

A Brief History of Medical Libraries

Bertha R. Almagro

The golden age of libraries and librarianship had its beginning under the reign of King Assurbanipal of Assyria (668-680 B.C.). From the several hundred clay tablets relating to medical matters found in his collection, to a collection of over three million books, journals, technical reports, and audio visual material held by the National Library of Medicine, man has consistently demonstrated his all consuming passion for the systematic collection and organization of medical material. Since ancient times, this process has been a matter of great concern to those entrusted with the responsibility to preserve the written word.

The name of the earliest known librarian is Amilanu, from Edfu, Lower Egypt, who was in charge of the oldest library catalog, engraved on the walls of the library. Ibnissaru was another librarian in charge of a sophisticated catalog arranged by subject, which provided instruction on how to locate the desired work. The requestor was asked to write his/her name on a piece of papyrus, alo with the title of the work, and hand it the librarian who was responsible f retrieving it from the clay jars in which t tablets and/or papyri were kept. Sin tablets had numbers assigned as well special locations, the perfection of t system indicates that libraries must ha been in existence for some time, thus, t library profession is indeed a very ancie one. It was a position held in great impo tance, judging by the titles they we assigned. "Learned Men of the Mag Library," and "Keeper of the Sacre Books," are two good examples of t esteem in which they were held. Wome were also mentioned, but as usual as su ordinates, and were addressed as "Mi tress of the House of Books."

Since religion and magic were close related to medicine, medical works we

From: The Assistant Librarian for Processing Services, University of Arizona Health Sciences Center Library, Tucson, Arizona 85724.

ed in temple libraries, and its use was ed to court dignitaries, priests, and cated or higher class individuals. The ple of Thoth in Hermopolis, housed a number of medical works. Hermopo- as an ancient Egyptian town, located h of Cairo. Here, Thoth, the Egyptian of learning, was worshiped as the ntor of writing, creator of languages, interpreter and advisor of the gods. vas also the patron of scribes (librar- . Other collections were housed in ces or privately owned, and it was the om to keep books in the bedroom, on ts placed at the head of the bed.

ne great medical advances achieved ng the Greek period produced a vast ber of medical writings, and conse- ntly libraries flourished. Hippocrates Aristotle both had private libraries, the latter is being reported as being first man to have classified books. His a vast collection, including a copy of y existing medical work. Tyrannion, grammarian, is also said to have elled in the classification of books. He eld responsible (about 803 B.C.) for reclassification of the collection that e belonged to Aristotle.

s medical schools developed, medical aries flourished. The Alexandrian ool of Medicine, along with those of gamus, Cos, Cnidos, Rhodes, and ene, all had their own libraries. One hod utilized to enrich the library con- d in confiscating books. All ships that ved in the Alexandrian port were ched for books, and if found, they e immediately appropriated. Copies e made, and those were returned to owner with a modest compensation. ome of the distinguished librarians ng the Alexandrian stage were netrius (who received a large amount noney to collect books from all over world), Zenodotus of Ephesus, Alex- er of Aetolio, and Callimachus of ene (considered to be the Father of iography) who prepared a catalog nged in 120 classes, which included dicine. Slips of papyrus called akes, made up the catalog on which written a short title corresponding to appropriate papyrus roll. According istorical sources, Hermippus, Calli- hus' assistant, is said to be the real piler.

hen the Alexandrian Library was des- ed by fire in 47 B.C., the collection of dical manuscripts came to a stop, as nans were not overly concerned with dical literature. Medicine as a profes- was beneath the dignity of the nan citizen, who cured himself by oking the aid of the gods. It was not l the Middle Ages (inappropriately ed the "Dark Ages"), that medical ning and medical libraries emerged n. From the 10th to the 12th century, bic civilization played an instrumental in the development of medicine, their libraries constituting the bridge that allowed the transition from Greek learning to the Reinassance of Western Europe.

The Western Caliphate of Cordova (755-1236) achieved great prominence as literature, art, philosophy, and science flourished. Libraries, schools, hospitals, and medical societies also prospered. Many Greek medical works were translated into Arabic, and the medical school at Cordova (970 A.D.) boasted a library of 225,000 volumes. Side by side in every palace were to be found seraglios and libraries filled with ancient musty-smelling, yellowed parchments. Notable analogies exist between the awakening of medicine in the Golden Age of Arabic civilization and that of Renaissance Italy. Like Renaissance physicians, Arab physicians were also philosophers, and the title of Hakim was applied to both physicians and philosophers. The famous schools of Salerno, Bologna, Padua, Naples, and Paris, used mostly Arabic texts. Muslim Spain had at least 70 libraries, and could lay claim to the greatest existing scientific quadrumvirate. They were: Albucasis, the greatest surgeon in Arabic medicine, Avenzoar, the clinician, and the most Hippocratic of the Arab physicians; Averroes, the philosopher, who studied mathematics, philosophy, and medicine, and was physician to Caliph Abu -Ya qub Yusif in Marrakech; and finally Maimonides, personal physician to the Sultan Saladin.

Medical knowledge again suffered a decline, as medical practice fell to a low ebb into the hands of charlatans, until it staged a reawakening among the midst of religious orders. Medieval monasteries were responsible for its reawakening, as they assumed responsibility for the collection and dissemination of medical knowledge. Benedictine monasteries were the first to form libraries, and among the collection were medical and philosophical manuscripts. The collection was supervised by a rotating librarian who held this position during a one year term. He was called Librarian or Armarius. This last name derives from Armarium, a common word used for library during the Middle Ages, meaning wardrobe or book-press. It must be kept in mind that when people spoke of libraries in those times they did not mean a special room, still less a special building, but rather a shelf or shelves on the wall, or a cabinet. The collections were very small (perhaps ten volumes), and were mostly increased through gifts and bequests. Special revenues were earmarked for the purchase of new books and the repair of others.

Some of the responsibilities of the Librarian or Armarius consisted in assigning a book to be read by each brother; obtaining ink and parchment, and adopting policies for the management of the collection. According to a policy applied during the 11th century, the collection was divided into two groups; one that could be borrowed by monks or laymen, and one that was kept under lock and key. The Librarian or Armarius was expected to know each book individually, as well as its exact position on the shelf. He was also responsible for protecting the books against dust, humidity, and decay. The loss of a book was considered a criminal offense.

With the revival of learning and the launching of universities, medicine became a part of the curricula. Although the medical schools of Salerno, Montpelier, and others that flourished from the 9th century on were all teaching medicine, there is very limited information about the content and size of their libraries. From the year 1000 to 1075, the names of highly respected physicians teaching at these centers are frequently cited and it is possible that the numerous works of Alphanus, Gariopontus, Cophon the Elder, Musandinus, Gerard, Roger, Trotula (the famous lady doctor), and Constantine the African, could have been housed in the libraries of those institutions for the benefit of the students. A number of cataloguing devices were created to identify the collection. For example, each book in each category was assigned a letter, and if needed, use of double letters and symbols were added. Sometimes two capital letters were used, or a capital and a lower letter. Some catalogs placed a mark on the book, and the mark was repeated on the shelves to identify location. Some collections were arranged by size, and others by color. The same principles were followed by the catalogs describing the collection to allow "easy" access.

Since a culture grows out of its tools, so the introduction of the printing press opened the channels for increased knowledge. The collection and preservation of publications as well as the libraries in which they were housed became more important than ever. The many scientific and medical societies that surged at every level, international, national, local, were a hotbed of ideas. The need to foster publications to disseminate the research being carried by these organizations led to the establishment of libraries, in which these publications could be collected, organized and utilized on demand.

In the United States, Philadelphia, considered the metropolis of early America, was the first city to possess both a medical school, and a professional academy. A natural outcome of this fortunate conjunction was the organization of the first medical library. With a donation from Dr. John Fathergill in 1762 of a copy of *History of the Materia Medica* by William Lewis, the collection of the Pennsylvania Hospital Library grew to more than 10,000 volumes by 1856. To match the generous

donation of books made by private individuals, it was suggested that a small annual fee be levied on students, and that open solicitation to practicing physicians be pursued. For this purpose, a list was compiled and given to Benjamin Franklin, to be used as a basis for solicitation among his English friends. No librarian was appointed, and the apothecary was responsible for the operation of the library.

Just as in present times, the combination of lectures, hospital observation, and library availability, was a powerful magnet that drew medical students to Philadelphia. The library of the College of Philadelphia also began with a gift in 1787. A committee was asked to prepare a list of books for purchase, not exceeding £50 in value. Dr. Caspar Wistar, one of the most important physicians in the United States during the first half of the present century, and author of the highly prized textbook "A System of Anatomy," was one of the members of this early committee on "collection development." The position of librarian was performed on a purely voluntary basis by fellow members. By 1835 there were approximately 300 volumes, many in need of repair, and a report dated in 1843 indicated that the library was "rarely" if ever used. The situation described above was similar to those of other hospital and medical school libraries throughout the nation. Access was limited to a few hours a day certain days of the week, and frequent moves from one room to another due to lack of space when the shelves became full were very disruptive.

A report prepared in 1849 by the recently constituted American Medical Association listed ten institutions holding libraries. They were Pennsylvania Hospital, 10,000 volumes, Transylvania University, 7,000 volumes, New York Hospital, 5,345, University of Louisville, 3,000 volumes, Boston Athenaeum, 3,000 volumes, Medical School of Maine, 2,400 volumes, Medical College of Ohio, 2,000 volumes, Harvard College Medical Library 1,769 volumes, Medical and Chirurgical Faculty of Maryland, 1,200 volumes, and Massachusetts Medical College, 1,200 volumes. The collective holdings represented 36,914 volumes, and most of them were out-of-date and in poor condition. The scant attention being paid to their value is exemplified by the library of the Philadelphia Almhouse. Housed from 1830 to the 1940's in the lunatic's wing, it suffered plunder and vandalism. An incident of a different nature but of equally dramatic proportions occurred when the Medical and Chirurgical Society of Baltimore was deprived of the library's appropriation, and all subscriptions had to be cancelled causing great harm to the scientific development of the Society.

The impetus provided by the American Medical Association urging the establishment of "public medical libraries" accessible to all qualified persons, heralded the beginning of a new and strong era for the growth and development of medical libraries. Students were encouraged not only to read more, but to read judiciously, subscribe to a few good journals, and to make sure their wives were "intelligent enough" to read the articles first and to select those which could be more profitable for their purpose, thus saving them valuable time!

The increasing demand for medical material, especially current journals, created a demand for librarians responsible for the cataloging and organization of the collection, and for the general supervision of the library operations. Many private collectors donated their libraries, and generous gifts stimulated the growth of many medical libraries. By 1882, the *Medical Register of Philadelphia* wrote in its editorial "it would seem as if an era of medical libraries were now upon us."

The culmination of these memorable events was the foundation in 1898 of the Medical Library Association by a handful of librarians and physicians, with the sole purpose of fostering medical libraries. In that year there were 165 medical colleges in the United States, of which only 24 had libraries. There were medical libraries in 24 hospitals, six schools of pharmacy, and one school of veterinary medicine. Twenty-four medical societies had libraries, and there were medical departments in 45 public libraries.

The fact that an inadequate library could jeopardize the standings of a medical school as easily as the inadequate instruction of any essential subject in the curriculum, was finally recognized. Medical libraries reflect the scientific interest of the faculty, and can be considered as the measure by which the medical school is appraised. Medical libraries also represent the unifying force in the university and the profession.

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Correspondence

Editor:

I am grateful to Arizona Medicine having published my letter concerni orthopaedic medicine (December 198 After reading Blair Packard's respon supporting physical therapy, I apologi for not having referred to their traditio role as medicine's historic ally. It is necessary issue to focus on.

In the past, physicians, too often, ha ritualistically prescribed physical thera and physical therapists unquestionin acquiesced, or did not know the valua manual techniques which distinguish t effective practitioner. Under those c cumstances, when it failed, "physi therapy" as a generic phrase, was blame

During the past 12 years, physical th apy has reawakened their craft and passing from a time when training ov emphasized the interposition of ele tronics and modalities, but chiropra has continued to establish itself, rega less. In practice, there is a distinction. I the unusual chiropractor whose servic are pervasive, extending into exerci functional restoration, etc.

Practically, physical therapy, chiropra tic, osteopathy, and traditional medicir will continue to exist. How society is w served, depends on how we relate to ea other.

Paul H. Goodley, M.D.
Orthopaedic Medicine

"The Mayo is Coming, The Mayo is Coming..."

The Mayo Clinic responded to my last editorial by explaining that they were coming to Arizona to bring us quality medical care. They also touted the fact that they were "not for profit."[1] My response to both claims was plain and simple, "B-S"! I was then invited for lunch with their pointman to further discuss my views. I restated that I thought the Mayo Clinic was coming here to make "a buck" as business in Minnesota was not that good and that their "nonprofit" status was a disguise for hefty salaries and large pension plan contributions for their members. I further suggested that they should scale back their research and education efforts (do we really need a study of the last 2,600 left toe abcesses?) and let the funds be doled out by an independent body such as the National Institutes of Health and not be supported by patient revenue. It is hoped this would reduce patient care costs. I also suggested that some of their billing practices common in Minnesota (e.g., billing individually for SMA-20 items) were illegal in Arizona. To their claim that they will refer patients outside their facility, I asked their pointman (a seasoned, smooth internist who was quite likeable) when he last referred a patient outside the Mayo family in Minnesota? To his credit, he admitted he couldn't remember!

It was therefore no surprise that their righteous indignation was laid out for what it really was, when during a news conference to announce their site acquisition (139 acres in north Scottsdale)[2], their pointman, when asked if the Arizona clinic will be a nonprofit institution, answered "I don't know!" Either their "C.E.O." doesn't know what he's talking about or their pointman has more realistic expectations.

Arizona is not the "Sticks"! It certainly is more cosmopolitan than Rochester, Minnesota and is inhabited by a more diverse, vocal, less inhibited and more honest medical community which can deal with the truth. If the Mayo Clinic wants to foster goodwill within the Arizona community, it had better begin to get its act together!

Marshall B. Block,
Editor

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Navy Alcohol and Substance Abuse Program

Since October 1981, the Navy Substance Abuse Prevention Program contract has brought abundant and unique opportunities for conducting applied research to identify prevention models in behavioral medicine for adolescents and adults.

The project provides evaluation based primary and secondary prevention direct services to U.S. Navy and Marine Corps, their dependents (3 high school programs), and other Department of Defense personnel through 40 major sites and 130 additional classroom locations including ships afloat. In its three years, the program has triaged 210,000 individuals for alcohol or drug related problems, referred 69,000 to outpatient/inpatient levels, with 141,000 completing the prevention program. Since 1983, a second intervention has been developed targeting obesity with 1000 persons completing treatment.

Application to Behaviors of Alcohol Use

Some of the most pressing problems faced by primary care systems specifically in regard to alcohol are the difficulty in recognizing the point at which alcohol use becomes a problem; identifying and understanding predictive factors for alcoholism, the interaction of these factors, and the contrast between the behavior of those high risk individuals who do not develop drinking problems and the behavior of those who do. The contract has allowed development of research to examine these questions and to provide medical educators with ways of teaching skills in the areas of diagnosis, prevention, and early treatment.

Application to Alcohol Use Without Alcohol Related Problems

With a goal of promoting individual health by determining safe levels of alcohol consumption, a study which suggests when alcohol use becomes a problem

biochemically is in progress. There is general literature support for a theoretically sound cut off point above which detrimental effects are believed to occur. Vaillant (1983) suggests that at five drinks per occasion, approximately 3 oz. of ethanol would be the maximum "safe" ingestion. Conversely, alcohol, when used in small amounts in culturally appropriate ways, is considered benign and may even produce beneficial effects. Belloc and Breslow (1972, 1973) found that little or no drinking in association with other habits contributed to health and longevity; and Klatsky, et al. (1981) report that 1 oz. daily may have the positive effect of increasing high density lipoprotein levels.

Since alcohol produces changes in virtually every organ system (Lieber, 1982), it seems reasonable to expect that one or more of the accompanying or resulting changes could provide objective means of detecting excessive use. Clearly, development of such a diagnostic test would impact both prevention and treatment greatly. The study being conducted centers on determining the immunosuppressive properties of alcohol in moderate intake levels as a first step towards that end.

Application to Primary Care of Common Medical Problems

An additional and more general problem faced by primary care is the relative inability of physicians to simultaneously identify relevant physiological and psychological contributors to the patient's medical status; and to provide early enough intervention to avert further medical consequences. In the Family Practice Clinic, most frequently patient visits relate to prenatal and well person care, hypertension, obesity, back pain, headaches, and upper respiratory problems. Given these diagnoses, the requirement for integrated and simultaneous management of the biologic, psychologic and behavioral etiologies is obvious. The ordinary practice of ruling out biologic entities prior to investigating the other two results in both higher costs and reduced quality of care. Beyond this it is well-recognized that cost containment calls for identifying which patients could benefit from available treatment interventions.

A core element of the NASAPP research identifies which information should be collected and how it will be interpreted. This will provide information as to what data is diagnostically relevant; what level of intervention is required; and an estimate of how likely it is that the individual will benefit from the intervention. If this model were to be used by physicians, the variability between practitioners' assessments might be reduced with an increase in treatment efficacy and patient success.

Application to Patient-Physician Interactions

Blum (1982) challenges physicians to develop healing relationships with their patients. The practitioner is faced with the fact that conventional medical communication practices and ordinary psychological jargon often do not foster the skills of clinical thinking and helping which enhance the conditions for patient behavior change. The project has developed instrumentation which can specify how helpful an individual's ordinary communication appears, and thereby identify the necessary direction for increasing the helpfulness of these skills.

Findings from this element have already been implemented in the Preparation for Clinical Medicine course where medical students and faculty are introduced to a generic theory of addiction; a perspective and experience in facilitative interaction; how this facilitative interaction is a necessary condition for caring for patients; and why the facilitative process works to enhance the patient's ability to succeed at recovery by enabling the patient to achieve responsibility for his or her own health and well-being.

Behavior Change Skills and Behavior Change

More specifically to this point of self responsibility, the goal of each 36-hour class attended by Navy personnel is to assist them in becoming more powerful in their own lives by increasing positive expectancy of their own ability to cope with future problem situations. This framework is adaptable to many patient dilemmas such as chronic pain, any of the lifestyle related disorders (coronary heart disease, diabetes, emphysema, hypertension), or as a general education regarding the deeply entrenched cultural factors which perpetuate poor health.

In its process-orientation the course causes focus on the person's total immediate and short-term experience in an attempt to reduplicate (in the classroom setting) idiosyncratic features of the individual's life awarenesses, behaviors and self-appraisal.

Within this milieu, the syllabi guide articulation and analysis of the relationships between the individual's awarenesses and behaviors. Historical and current communication and adaptability skills are assessed and examined within the context of coherence between values and decisions, in one course to focus on alcohol and drug use; in the other to focus on fitness practices.

Following this investigation, several relapse prevention formats (Marlatt 1980) attempt to increase the individual's self-efficacy (Bandura 1977) by making the conditions under which he or she would most assuredly repeat the undesired behavior less ambiguous. The individual then can plan in advance appropriate coping strategies and personal rewards for choosing desired responses.

Depending upon the duration o which a course is offered, individuals fi opportunity for both application of alt native behaviors in their usual envir ments and for analysis of the afterm within the safety of the classro rapport.

Barbara Reed Hartmann, Ph.D.
Research Assistant Professor
Family and Community Medicine
Principal Investigator, NASAPP

Louis J. Kettel, M.D.
Dean,College of Medicine

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The Arizona Medical Association, Inc.
1985 ANNUAL MEETING
Stouffer Cottonwoods Resort
6160 North Scottsdale Road, Scottsdale, Arizona

SCHEDULE OF EVENTS

Thursday, April 25, 1985

Current Perspectives Program

8 a.m. - 12 noon	Emergency Medicine	Cottonwoods Ballrooms 1 & 2
	OB/GYN	Cottonwoods Ballrooms 3 & 4
	Internal Medicine	Kerr Center Studio
	Psychiatry	Kerr Center S.E. Room
	Orthopedics & Sports Medicine	Kerr Center Green Room
9 a.m. - 11:30 a.m.	*Auxiliary House of Delegates*	Canyon Rooms A & D

Current Perspectives Program

1 p.m. - 5 p.m.	General Surgery	Cottonwoods Ballrooms 1 & 2
	Pediatrics	Cottonwoods Ballrooms 3 & 4
	Internal Medicine	Kerr Center Studio
	Ophthalmology	Kerr Center S.E. Room
	Otolaryngology & Plastic Surgery	Kerr Center Green Room
1 p.m. - 5 p.m.	Hospital Medical Staff Section Program & Annual Meeting	Canyon Rooms B & C
1:30 p.m. - 3 p.m.	*Auxiliary Reference Committees*	Canyon Rooms A & D
3 p.m. - 5 p.m.	*Auxiliary House of Delegates*	Canyon Rooms A & D
7 p.m.	Reception	Poolside
8 p.m.	Desert Clambake	Poolside

Friday, April 26, 1985

6 a.m. - 8 a.m.	Executive Committee Breakfast	Cottonwoods Ballroom 1
7:30 a.m. - 8:30 a.m.	*Auxiliary Caucus Meetings*	Canyon Rooms B & C
8 a.m. - 10 a.m.	Board of Directors' Meeting	Canyon Rooms A & D
8:30 a.m. - 10 a.m.	*Auxiliary House of Delegates*	Canyon Rooms B & C
10 a.m. - 12 Noon	*Auxiliary Workshops*	Canyon Rooms B & C
10 a.m. - 12 Noon	House of Delegates	Cottonwoods Ballroom
12 Noon - 4 p.m.	Past Presidents' Luncheon	Sonora
12:30 p.m. - 3 p.m.	*Auxiliary Luncheon*	Canyon Rooms A & D
2 p.m. - 5 p.m.	Amendments Reference Committee	Cottonwoods Ballroom 2
2 p.m. - 5 p.m.	Resolutions Reference Committee	Cottonwoods Ballroom 1
3 p.m. - 5 p.m.	*Auxiliary Workshops*	Canyon Rooms B & C
7 p.m.	President's Reception	Loggia I & II
8 p.m.	President's Banquet	Cottonwoods Ballroom

Saturday, April 27, 1985

6:30 a.m. - 8 a.m.	Maricopa County Caucus	Canyon Room A
6:30 a.m.- 8 a.m.	Pima County Caucus	Canyon Room C
8 a.m. - 12 Noon	House of Delegates	Cottonwoods Ballroom
12 Noon - 3 p.m.	Board of Directors' Luncheon	Canyon Room D

ArMA Reports

The minutes in this section have been condensed. A complete copy will be sent to any member requesting them.

President
Earl J. Baker, M.D.

President-Elect
Gary L. Henderson, M.D.

Vice President
Neil O. Ward, M.D.

Secretary
Richard L. Collins, M.D.

Treasurer
Robert S. Hirsch, M.D.

Past President
Neopito L. Robles, M.D.

Executive Vice President
Bruce E. Robinson

Publishing Committee
Marshall B. Block, M.D., Chairman
Earl J. Baker, M.D.
Burnell R. Brown, M.D.
George E. Burdick, M.D.
Richard L. Collins, M.D.
Kenneth B. Desser, M.D.
Jay S. Fleishman, M.D.
Benjamin K. Harris, M.D.
Jonathan M. Levy, M.D.
William B. McGrath, M.D.
Neopito L. Robles, M.D.
Jay W. Smith, M.D.
Volker K.H. Sonntag, M.D.
Sidney C. Werner, M.D.

TASK FORCE ON ECONOMICS OF QUALITY CARE OF THE GOVERNMENTAL SERVICES COMMITTEE

A meeting of the Task Force on Economics of Quality Care of the Governmental Services Committee of the Arizona Medical Association, Inc., was held on Wednesday, January 16, 1985.

Kim A. Bateman, M.D., the Past President of the Utah State Medical Association, presented for the committee's consideration in its planning background on and particulars regarding the procedures followed by his Association in its development of the "Medical Care Cost Containment Proposals." Dr. Bateman commented that, although their number one goal, i.e., cost containment, could not yet be truly evaluated, they had, by their proposals, accomplished two others—made the legislature aware that physicians do care about containing health care costs and developed a better, stronger dialogue between Association members and its leadership. Dr. Bateman indicated that many problems addressed are solving themselves; many, while not yet accomplished, are in fact being addressed with the assistance of other groups and organizations; and some continue to be a source of frustration on which progress to date appears slow.

The members reviewed and discussed at great length the analyses and recommendations prepared by the following members on the indicated sections of the USMA "Medical Care Cost Containment Proposals." Laurence M. Linkner, M.D. — Changes in the Structure of Health Insurance; Louis J. Kettel, M.D. — Changes in Federal and State Government; Neil O. Ward, M.D. — Changes in Medical Liability; Robert E. Westfall, M.D. — Hospital Procedures to Encourage Cost Effective Practices for Physicians; Kenneth V. Iserson, M.D. — Physician Education, and Richard L. Collins, M.D. — Consumer Education.

It was agreed that all recommendations would be combined under subject matter into one document which would then be reviewed and finally considered by the committee during its next meeting as to matters requiring immediate attention and those which would be considered long-term.

Update was received from Chic Ol on the opening session of the legislatu bills of which ArMA is currently aw and those which are indicated might s face, and a 12/19/84 meeting with Willi Jacquin of the Arizona State Chambe Commerce.

GOVERNING COUNCIL — HOSPITA MEDICAL STAFF SECTION AND ARIZONA HOSPITAL ASSOCIATIO LIAISON COMMITTEE

A meeting of the Governing Council the Hospital Medical Staff Section of t Arizona Medical Association, Inc., a the Arizona Hospital Association Liais Committee was held on Saturday, Janu 19, 1985, at the offices of the Arizo Medical Association.

Dr. Ward briefly overviewed the acti ties of ArMA's recently established Ta Force on Economics of Quality Ca which is attempting to develop a mas plan to assist in reducing health care co while maintaining quality care. Inter was indicated by the ArHA represen tives that once finalized and approved ArMA's Board of Directors the progra be provided for ArHA's review as to act ities which might be jointly carried ou

Chic Older reported on the curre activities at the Legislature, indicating th to date only two pieces of legislation h been introduced relating to cost contai ment; that ArMA is carefully watchi "mandatory insurance coverage" acti ity; that optometrists are attempting expand their scope of practice; and th they expect introduction of several bi relating to malpractice insuran coverage.

The members discussed at great leng various efforts being conducted with the medical community to create smoke-free environment, and it w moved and carried that the Governi Council of the Arizona Medical Associ tion's Hospital Medical Staff Section ar the Liaison Committee of the Arizo Hospital Association endorse and suppo the concept of a smoke-free environme by encouraging educational effor directed toward hospitals, physicians ar patients; by promoting hospital incenti programs for employees; by recor mending that physicians and hospita promote such practice within their ow office/hospital setting; and by encoura ing that no cigarette or tobacco produc be sold within hospital institutions.

Other items of interest which were di cussed included the reestablishment ArMA's Physician's Health Committe which would hopefully be fully operati by the end of the year; planning for more active Grievance Committee withi the ArMA organizational structur ArMA's new Contract Analysis service fo members; participation on HSAG's Adv sory Committee; the recent filing of lawsuit in which the court has ordere

the files of a hospital credentials
mittee be admitted into evidence;
an upcoming AHA seminar on
rly care.
was unanimously agreed that the
t meetings of these two groups should
tinue, as they provide administration
staff the opportunity to look at issues
common interest and in-house
vities.
he Council met immediately follow-
the joint meeting for the sole purpose
planning the agenda for the April
ual meeting of the Hospital Medical
f Section and, following discussion, it
determined that, in addition to elec-
n of officers, attempt would be made
firm up presentations as outlined
ow:
. AMA videotape, "Congress Discus-
n of Mandatory Assignment."
. Report on the activities of ArMA's
k Force on Economics of Quality Care.
. Update on the malpractice crisis—
rdability—by Dr. Brooks or Roger
fman.
. Presentation to publicize the activi-
of the new Physician's Health Com-
tee and the Grievance Committee.
. ArHA representative to speak on the
ue of the liaison group which has been
blished.
. A new "How To Do It" slot on the
nda — which could include, as an
mple, a parliamentarian to discuss
w to manage your committee.

EXECUTIVE COMMITTEE

A meeting of the Executive Committee
the Arizona Medical Association, Inc.
s held at the Association's offices on
day, January 25, 1985.
Dr. Novick, Director of the Department
Health Services, updated the commit-
e on the department's priorities at the
esent time, i.e., infant mortality, water
ality, preventive medicine, and hospi-
reporting of charges for DRGs and dis-
buted copies of the January 1985
izona *Health Bulletin*, "A Public Health
genda for Arizona: Objectives for the
ar 2000" and "Projections for the Year
00 — Trends for Public Health."
Following reports on occurrences
garding health care cost containment
tivities from July 28, 1984 when the
ard took its initial position on Proposi-
n 301, through the defeat of all five
opositions on the November ballot and
current activities in the Legislature
garding cost containment legislation as
ell as the various changes in circumstan-
s and attitudes on this subject, it was
oved and carried to request the Board
Directors to rescind its July 28, 1984
sition relating to Proposition 301, as no
nger appropriate, and return to the
gislative Committee and its subcom-
ittee on cost containment legislation
ll power to act for and on behalf of the Arizona Medical Association in determining positions to be taken by the Association in regard to cost containment legislation introduced during the current Legislative Session.

The committee reviewed and approved Dr. Kossuth's recommendation that the Ad Hoc Salt Reduction Committee be disbanded and in lieu of establishing another committee to examine the role of sodium in hypertension, agreed to ask him to meet with staff of the Department of Health Services who will be working on a similar program.

The committee reviewed the request from the Department of Corrections that we establish an advisory committee regarding health care provided to the inmates under state jurisdiction, together with the opinion of legal, and the Association's liability insurance policy currently in effect, and was advised that Richard O. Flynn, M.D. had agreed to chair the new advisory committee and received several suggestions as to the balance of the membership, which is still in the formation stages. Following discussion, it was moved and carried to appoint an Ad Hoc Jail Health Care Advisory Committee, contingent upon receipt of a letter from the Association's Liability Insurance Carrier indicating that, under the existing coverage, no policy exclusions would apply under the given set of circumstances.

The committee reviewed the agenda for the 1/26/85 Board of Director's meeting and discussed the establishment of a Mayo Clinic in the Valley and the renewed support of ArMA by the Arizona Ophthalmological Society. In considering the numerous outside referral services being made available to physicians for a fee, it was moved and carried that, via *Medical Memos*, the Association reemphasize the referral services available to member physicians at both the state and county level and that outside contracting for such a service is unnecessary.

AD HOC MEMBERSHIP COMMITTEE

A meeting of the Ad Hoc Membership Committee of the Arizona Medical Association, Inc., was held Saturday, January 26, 1985, at 810 West Bethany Home Road, Phoenix.

Misty Coumbe reported that the year-end membership count is less than 1983 year end, in part due to a loss of some county members. However, as of 1/24/85, there are 80 additional members, which will be reflected on the membership count for January.

To date 60 percent of the membership has already paid 1985 dues and, with Pima County Medical Society's dues reporting expected in February, the number paying 1985 dues should represent approximately 75 percent of the membership. Seven members have not renewed membership thus far.

In 1984 the total loss of ArMA members due to the voluntary membership option was 188, and 67 new physicians elected to join the county medical society only. County-only members rejoining for 1985 as a result of a special December solicitation amounted to 34.

ArMA has gained an additional delegate to the AMA since meeting the 75 percent joint ArMA/AMA member requirement.

Dr. Ward presented the draft for a new membership brochure to the committee for approval. After discussion of the entire brochure, some changes were made, and the committee approved the new draft.

The possibility of targeting the solicitation to certain groups was discussed. 1) Mayo Clinic — write to the physicians and indicate interest in having them join. 2) Osteopathic Physicians — after discussion, the decision was made not to actively solicit D.O.s at this time. It was mentioned that there have been meetings of the staffs of the Arizona Osteopathic Medical Association and ArMA to discuss the possibility of getting involved jointly in some projects, and Dr. Ward suggested that the committee wait to see what develops.

Material received from Educators Magazine Plan was reviewed as a possible new membership benefit. With this plan members could subscribe to many magazines at a reduced rate, and ArMA would receive $1.00 for each subscription. The committee agreed that this should be recommended as a new membership benefit.

Dr. Ward discussed information from AETNA regarding a "PPO Plus" coverage for physicians. Committee felt that this would be worth looking into. Dr. Ward will pursue and report back.

Collections service — Misty Coumbe reported that this has been well received by the membership, and a letter of commendation was received from a Tucson group. Thus far there has been a 2.7 percent response to the mailing, and 38 physicians or groups are now using the service.

As of December 31, 1984, 185 members hold an ArMA Master Card.

There are currently 1174 names on the patient referral service. It was pointed out that although this service has not been advertised, ArMA receives approximately 50 to 75 calls per week which we are now able to respond to.

Pension/Retirement Program — Approximately 60 responses were received thus far. A series of seminars has been planned to explain the program — one in January and two in February in Phoenix, and others are planned for other locations.

Contract Evaluation — There was discussion of criticism voiced by some

members that the evaluation should not cost so much since the contracts will be the same in some cases since several hundred physicians are enrolled in some of the PPOs or IPAs. It was felt this should be clarified to the membership.

A suggestion was made to recap ongoing and new services offered by ArMA to send with dues billings and also mention these programs from time to time in "Medical Memo."

The committee agreed that the list of names of county-only members should be circulated to the Board of Directors and ask that Board members contact those physicians.

BOARD OF DIRECTORS

A meeting of the Board of Directors of the Arizona Medical Association, Inc., was held on Saturday, January 26, 1985.

The Board received and reviewed a proposed resolution of the Publishing Committee relating to the continuation of *Arizona Medicine* and also considered recommendations from the Finance Committee relating to the same subject. Following comments and discussion, it was determined that the resolution of the Publishing Committee be submitted directly by that committee to the House of Delegates in April and it was moved and carried that staff be directed to place the recommendation of the Finance Committee regarding an increase of subscription price for *Arizona Medicine* or cessation of the publication in resolution form to be submitted by that committee to the House of Delegates in April, so that members, in considering the future of the Journal, will know what the alternatives are.

Dr. Baker requested that the Publishing Committee, prior to Annual Meeting, look at the possibilities of publishing a magazine similar to "California Physician" and prepare its report and recommendations regarding same.

Review of Campaign — Mr. Robert Nelson of Nelson Padberg Associates made a detailed presentation regarding what was observed prior to the campaign, relating to the health care propositions, what actually occurred during the campaign and how careful monitoring allowed awareness of reactions as well as adjustments in planning where necessary, why the five propositions failed, and what the current perceptions of the medical profession are. In conclusion, Mr. Nelson advised that physicians 1) never take their patients for granted, 2) encourage their patients to question or discuss bills or other problems with them and their staff, and 3) become actively involved and play some role in politics within their community to let the legislators know that physicians are involved and do care.

Following an overwhelming response to Mr. Nelson's presentation and after an expression of gratitude and thanks to him for making himself available, the Board discussed using the presentation and other appropriate documentation to possibly develop a program for annual meeting so that the membership would be equally aware of the efforts expended and the necessity for physician involvement.

It was moved and carried to confirm the appointments of Bart J. Carter, Gabriel O. Manasse, M.D., and Marvin C. Schneider, M.D. as members of the Legistative Committee for the term 1984-87.

It was moved and carried to confirm the appointment of N. Burton Attico, M.D., as a member of the Maternal and Child Health Care Committee for the term 1984-87.

Current Health Care Cost Containment Activities — ArMA's Position. Following a review by Chic Older of current health care cost containment legislation and upon recommendation of the Executive Committee it was moved and carried to adopt the recommendation of the Executive Committee and the Board of Directors hereby rescinds its July 28, 1984 position relating to Proposition 301, as no longer appropriate, and returns to the Legislative Committee and its subcommittee of Cost Containment Legislation full power to act for and on behalf of the Arizona Medical Association in determining positions to be taken by the Association in regard to cost containment legislation introduced during the current legislative session.

Dr. Mangold, Chairman of the ArMPAC Board of Directors, reported to the Board on ArMPAC's finance and membership status, expressing concern that every member is not involved and should be and indicating that they are now soliciting 1985 memberships and are hopeful that physicians will realize the importance of becoming politically involved.

Mary Eleanor Holmes, President of the ArMA Auxiliary, briefly addressed the members, reporting on routine activities being carried on, such as their ongoing attempts to increase membership. She also stated that on January 29th the Auxiliary would have a "Day at the Legislature," which would include a tour of the capitol and be followed by a luncheon with Senator Carl Kunasek and Chic Older.

The Board received a letter of appreciation from Ansermo J. Arthur for financial assistance and previously requested background information on grant to Edward J. Rapp.

It was moved and carried to approve the granting of Fifty-Year Club Memberships to L. D. Beck, M.D., Floyd B. Bralliar, M.D., Joseph C. Ehrlich, M.D., Paul A. Johnson, M.D., Dermont W. Melick, M.D., Marriner W. Merrill, M.D., Anthony G. Salvatore, M.D., Morris E. Stern, M.D. and Harry E. Thompson, M.D.

Dr. Ivey reviewed for the Board the activities undertaken in Gila County t to reduce health care costs, advising it was brought about by a joint effo mine owners, union representatives, pital representatives, the county me society, nurses, and the communit large to address what they felt was number one cause — duplication of se ces. Dr. Ivey indicated that they h accomplished their first goal, in that are in the process of forming a non-p corporation to merge the assets of t hospitals previously maintained to es lish one institution for the en community.

The Board received advice of confir tion of Steven S. Spencer, M.D. and phen R. Stein, M.D. to BOMEX as we reports from Bruce Robinson and Sa Spellman on recent ArHA Board m ings.

The Board reviewed two resolut relating to a smoke-free hospital envi ment and following a lengthy discuss it was the consensus of the Board that resolution of the Environmental He Committee, when finalized, and tha Dr. Zonis be submitted to the Hous Delegates for action in April. Based u the importance of this issue and the that smoking had previously b banned from meetings of the House of the Board of Directors, it was mo and carried to no longer permit smok at any meetings of Associat Committees.

It was moved and carried to ratify approve the minutes of meetings of Executive Committee held on Octo 26, 1984, November 3, 1984, December 14, 1984.

The Board was advised that the Fina Committee annual audit is still being c ducted and will be reported on at the meeting.

The recent concerns of the Ad Indigent Health Care Committee rela to the AHCCCS program, the previ action taken by the Board on Novem 3rd, together with the results of the E utive Committee's meeting with Winograd, Chairman of that commit were reviewed. In Dr. Winogr absence, Chic Older reported to Board that he and Dr. Winograd involved in discussions with AHC officials regarding statewide paymen physicians under the program and t for the present, there is a positive fee about the discussions and ultim outcome.

Misty Coumbe reported on the member programs which had been de loped by the Ad Hoc Membership C mittee, i.e., a collection service, Ar MasterCard program, statewide refe service, and a pension retirem program.

Dr. Sattenspiel briefly overviewed Delegation's written report on the 1 Interim Meeting held in Honolulu

ember, highlighting such subjects as "public image of physicians," the tional benefits granted by the AMA ncourage and retain unified member-, and the tremendous growth and lvement of the Hospital Medical Staff ion. The Board was alo apprised that inning with 1985 ArMA is now tled to four AMA delegates and alter-s and, in conjunction therewith, Dr. is read a resolution for consideration he Board regarding designation of the ly authorized alternate and it was ed and carried that, because the lution read by Dr. Zonis relating to gnation of members of the AMA egation requires a change in the Asso-ion Bylaws, the wording of that reso-on be forwarded to the Articles of rporation and Bylaws Committee for eview and finalization for presenta-n to the 1985 meeting of ArMA's House Delegates.

he Board reviewed the report of the Hoc Policy Review Committee pre-ed for House of Delegates' action in il, received legal counsel's opinion ting thereto, and discussed the Janu-15, 1985 letter from the Arizona Oph-lmological Society relating to "Radial atotomy." Based upon the 1/15 letter d discussions among the Board mbers that Radial Keratotomy is no ger considered "an investigative or perimental procedure," it was moved d carried to approve the report of the Hoc Policy Review Committee for mission to the House of Delegates fol-ing the removal of Resolution No. 6-— Radial Keratotomy in Arizona from Section entitled "Policies to be tained" to the section "Policies Not to Retained."

Reports were received on the recent reditation of the Phoenix VA Medical nter, on the planning for the Thursday, ril 25, 1985 educational program, on studies and activities being con-cted by the Governmental Services mmittee's Task Force on Economics of ality Care, and on the new planning the Physician's Health Committee ivities, which through the involvement d assistance of BOMEX, would establish program to assist impaired physicians d meet the letter of the law.

Dr. Ronald P. Spark, President of the na County Medical Society, reported recent action by his Board to establish relief effort to provide medical and ner care for the Yaqui Tribe and wel-med any and all volunteers in this dertaking, expressing the belief that s is a way to show physicians are not f-serving as publicly perceived, but are ring and responsive to the needs of the mmunity.

The Board received confirmation of heduling of the 1986 Annual Meeting June 5, 6, and 7, at the Loews Ventana sort in Tucson, and it was moved and carried to approve the dates for June 4, 5 and 6 for the holding of the 1987 Annual Meeting at a hotel in the greater Phoenix area to be determined by ArMA staff.

LONG RANGE PLANNING COMMITTEE

A meeting of the Long Range Planning Committee of the Arizona Medical Association, Inc. was held on Saturday, February 2, 1985.

Dr. Ward reported on the successful discussions held with BOMEX concerning the reorganization of the Physician's Health Committee, Dr. Donald Damstra's agreement to chair the new committee and act as director for the new program, and the initial groundwork being laid to secure additional outside financial support for same.

The Committee was advised that the Public Relations Committee will be meeting on 2/23/85 to discuss the sponsorship of public awareness seminars.

As previously requested, definitions of quality of care were received from several committee members; further discussion of the matter was postponed to a future meeting of the committee pending an analysis by the Chairman.

The committee reviewed an updated version of the "Committee Consolidation" document developed during its December meeting and discussed at great length the pros and cons of changing the existing committee structure. It was the consensus that, in an effort to make ArMA a more effective, more efficient and more cost conscious organization, it was appropriate that the existing committees be consolidated and reduced in number and size. It was moved and carried to amend the "Committee Consolidation" document by changing the names of two committees, i.e., committee on Medical Peer Review to Committee on Professional Affairs and Committee on Professional and Scientific Affairs to Committee on Scientific Affairs and that, with such amendments, such document be and become this Committee's recommendation to change the existing committee structure of the Arizona Medical Association.

After a lengthy discussion as to how to present these recommendations, it was moved and carried that the recommendations of the Long Range Planning Committee, entitled "Committee Consolidation," be immediately forwarded to the Articles of Incorporation and Bylaws Committee, requesting that it prepare a resolution for submission to the 1985 Annual Meeting of the House of Delegates which would change the existing committee structure of the Arizona Medical Association by the reduction of size and number, in conformance with such recommendations.

It was agreed by all of the members that it would be appropriate for the Chairman to direct a lettter to the chairmen of all committees, advising them of this committee's deliberations, resulting recommendations, and the basis for its determinations.

Because the intended resolution, if adopted by the House of Delegates, would provide that the functions of the Membership Committee be incorporated under those of the Long Range Planning Committee, it was moved and carried to withdraw the earlier request of the Long Range Planning Committee that a resolution be submitted to the House of Delegates to provide that the Membership Committee be made a standing committee of the Association.

During committee discussions, question was raised regarding the cost and necessity of food service at Board and committee meetings and it was moved and carried that, should the subject of food service at Association Meetings be considered at a future Board of Directors' Meeting, it is the recommendation of the Long Range Planning Committee that such food service be continued.

The chairman briefly commented on the transcript of Dr. Novick's November presentation, "Medical Practice, Medical Education and Government: Future Trends in a Troubled Relationship," stating that most of the megatrends touched on by Dr. Novick are in fact being addressed by ArMA. The newest of ArMA's services—Contract Analysis—was discussed by the committee, it being pointed out that there appears to be a misunderstanding among the membership regarding the fees being charged, and that an explanation of those fees might be in order.

The chairman apprised the members of the existing situation with regard to reported grievances and the fact that, for members, they were handled on a county basis, with complaints against non-members being referred to BOMEX. It was determined that this might be activity that ArMA should become more involved in.

Various articles on the subject of ethical questions and the establishment of ethics committees were recommended for committee review and Dr. Belton Meyer reported to the committee on his involvement in that area, and proposed that ArMA consider 1) whether every hospital should endeavor to establish an ethics committee, 2) whether those committees should be of the medical staff or of administration, 3) who would provide professional support for such committees, 4) whether there should be interaction among various ethics committees, and 5) whether there should be educational processes regarding these types of committees. Both subjects will be on the agenda for the next meeting of the committee on March 30, 1985.

NOMINATING COMMITTEE

A meeting of the Nominating Committee of the Arizona Medical Association, Inc. was held on Saturday, February 9, 1985, at the Association's offices, 810 West Bethany Home Road, Phoenix, Arizona.

The committee reviewed its charge as set forth in the Bylaws of the Association and received various documents for information and use in its deliberations.

The committee reviewed the eligibility requirements for election and began deliberations, during which it considered the terms of office for Speaker and Vice-Speaker of the House, and it was moved and carried to recommend to the Articles of Incorporation and Bylaws Committee that it draft a resolution for presentation to the 1985 meeting of the House of Delegates which would change the Bylaws to provide that the Speaker and Vice-Speaker of the House each be elected for a two year term, with the election of each to occur in alternate years. Based upon the foregoing, it was determined that, for the 1985 ballot, the Speaker of the House be elected for a one year term, with the Vice-Speaker elected for a two year term. The committee then proceeded with its selection of candidates for the offices to be filled, and it was moved and carried to approve the following as the 1985 slate of candidates for offices to be filled during the April Meeting of the House of Delegates.

Exhibit "A"

Arizona Medical Association Nominating Committee meeting, February 1, 1985.

Vacancies to be filled at the 1985 Annual Meeting

President-Elect—1985-86
Gary L. Henderson, M.D.
John C. Bull, M.D.
Neil O. Ward, M.D.

Vice-President—1985-86
Neil O. Ward, M.D.
Robert S. Hirsch, M.D.
Christopher T. Maloney, M.D.

Treasurer—1985-87
Robert S. Hirsch, M.D.
Mark Ivey, Jr., M.D.
Walter K. Sosey, M.D.

Speaker of the House—1985-86
Robert A. Price, M.D.
Watson M. Lacy, M.D.
Robert A. Price, M.D.

Vice-Speaker of the House—1985-87
New Position
Richard O. Flynn, M.D.
Walter J. Nieri, M.D.

Delegate to the AMA 1/1/86—12/31/87
Edward Sattenspiel, M.D.
Wilfred M. Potter, M.D.
Edward Sattenspiel, M.D.

Delegate to the AMA 1/1/86—12/31/87
Richard D. Zonis, M.D.
John K. Kerr, M.D.
Richard D. Zonis, M.D.

Delegate to the AMA 1/1/85—12/31/86
New Position
John F. Kahle, M.D.
Joseph S. Whaley, M.D.

Alternate Delegate to AMA 1/1/86—12/31/87
Franklin D. Loffer, Jr., M.D.
Franklin D. Loffer, Jr., M.D.
Neopito L. Robles, M.D.

Alternate Delegate to AMA
John F. Kahle, M.D.
President
Subject to Adoption of Resolution No. A-3-85

Alternate Delegate to AMA
New Position
President-Elect
Subject to Adoption of Resolution A-3-85

Central District Director—1985-88 (Maricopa)
Jon P. Rubach, M.D.
John K. Kerr, M.D.
Iain A. D. Todd, M.D.

Central District Director—1985-88 (Maricopa)
Ira B. Ehrlich, M.D.
Wilfred M. Potter, M.D.
H. Belton P. Meyer, M.D.

Northwestern District Director—1985-88 (Coconino, Mohave and Yavapai)
Lana L. Holstein, M.D.
Walter K. Sosey, M.D.
Leonard A. Wright, M.D.

The committee was informed of the response which had been received to the solicitation of direct members for delegates and alternates to represent them during the 1985 Annual Meeting, and following a review of the verified direct members and their nominations, the committee determined that two delegates and two alternates be selected, subject to acceptance, by contacting those receiving the greatest number of votes, in the following sequence: Drs. George D. Goldberg, Robert E. T. Stark, Stephen D. Kaster, Alan G. Golston, Forrest D. Holden, and Paul E. Stander.

Future Meetings

The following institutions and organizations h been accredited for their continuing med education programs by the Arizona Med Association and/or the Accreditation Council Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital, Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoe
St. Joseph's Hospital, Tucson
St. Luke's Hospital & Medical Center, Phoeni
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Progran (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations abo produce a variety of continuing medical educati programs. Each accredited institution a organization is responsible for designating which these programs meet ArMA's requirements Category 1 credit. Physicians who participate programs which are designated Category 1 accredited institutions will receive Category 1 cre toward the ArMA Certificate in CME and the AM Physician's Recognition Award.

MARCH

Pediatric Update 1985
March 19-22. La Posada Resort Hotel, Scottsdale, Arizona. Sponsor: Phoenix Children's Hospital. Contact: Ronald A. Christensen, M.D., Phoenix Children's Hospital, 1117 E. Willetta St., Phoenix, Arizona 85006. Approved for 16 hours Category 1 Credit.

Flexible Sigmoidoscopy
March 22-23. The Arizona Biltmore Resort Phoenix, Arizona. Sponsor: Section of Gastroenterology of St. Luke's Medical Center, Phoenix. Co-sponsored by the Arizona Society of Gastrointestinal Endoscopy. Contact: Christine Campbell, Director, Department of Medical Meetings, St. Luke's Medical Center, 1800 E. Van Buren, Phoenix, Arizona 85006. (602) 251-8402.

APRIL

stetrical Challenges of the 1980s
ril 11-13. Red Lion's La Posada Resort
tel, Scottsdale, Arizona. Sponsor: Good
maritan Medical Center, Phoenix,
izona. Contact: Renee Simenson, Good
maritan Medical Center, Division of
aternal-Fetal Medicine, 1111 E. McDowell
ad, P.O. Box 2989, Phoenix, Arizona.
02) 239-2647. Approved for 15 hours
tegory 1 Credit.

ght Heart Failure
ril 11, 12 & 13. Hyatt Regency Hotel,
oenix, Arizona. Sponsor: St. Luke's Heart
ng Center, co-sponsored by Arizona
ate University. Contact: Christine
ampbell, Director of Medical Meetings, St.
ke's Medical Center, 1800 East Van
ren, Phoenix, Arizona 85006. (602) 251-
02. Participants will be eligible to receive
ategory 1 CME credit.

nual Sports Medicine Symposium
ril 12, 13, 14, 1985. Holiday Inn,
etrocenter, Phoenix. For information
ntact ArMA (602) 246-8901.

dustrial Toxicology
ril 25-27. Scottsdale Hilton Resort,
ottsdale, Arizona. Sponsor: The Central
izona Regional Poison Management
enter, St. Luke's Medical Center, Phoenix.
ontact: Christine Campbell, Director,
epartment of Medical Meetings, St. Luke's
edical Center, 1800 E. Van Buren,
hoenix, Arizona 85006. (602) 251-8402.
pproved for Category 1 CME credit and
EU applied for.

JUNE

ediatrics in the Red Rocks — 8th Annual ummer Pediatrics Conference
une 14-16, 1985. Poco Diablo Resort,
edona, Arizona. Course will cover
mmunology, Adolescent Medicine &
ephrology. Sponsor: University of Arizona
ealth Sciences Center, College of
edicine, Office of Continuing Medical
ducation and Outreach, Tucson. Contact:
olly Dwan, Continuing Medical Education,
niversity of Arizona College of Medicine,
ucson, Arizona 85724 — Call: (602) 626-
173. Approved for 11 1/2 AMA Category 1
redit hours.

MONTHLY OR WEEKLY

hrine Medics Meeting
econd Tuesday of each month, Humana
ospital, Phoenix, 5:45 p.m. J. South
lassroom. Sponsor: Shrine Medics.
ontact: Robert C. Briggs, M.D., 5121 N.
entral Ave., Phoenix, AZ 85012.

ediatric Grand Rounds
uesday 7:30-8:30 a.m. in Phoenix:
st Tues.—Phoenix Children's Hospital.
nd Tues.—Maricopa Medical Center.
rd Tues.—Phoenix Children's Hospital.
th Tues.—St. Joseph's Hospital.
ponsor: Phoenix Hospitals Affiliated
ediatric Program. Contact Paul S.
ergeson, M.D., P.O. Box 2989, Phoenix,
rizona 85062. Approved for 1 hour per
ession Category 1 credit.

Review of Forensic Pathology Current Case, Special Topics
Thursday, weekly, 11:00 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ 85008. Contact: Martin B. Kassell, M.D.

Inservice Training
1st Friday, 1:00-2:00 p.m., Room 5, Education Building.

Psychiatric Case Presentation
2nd Friday, 1:00-2:00 p.m. Room 5, Education Building.

Clinical Pathological Conference
3rd Friday, 1:00-2:00 p.m., Room 5, Education Building

Open Topic
4th Friday, 1:00-2:00 p.m., Room 5, Education Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.

Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.

Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.

Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.

Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.

Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.

Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.

Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.

Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed.D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.

Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.

CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.

Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.

OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.

Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.

Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.

Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.

Surgical Department Meeting
3rd Monday, 11:45 p.m.

Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.

Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.

Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.
Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713. Contact: Eric G. Ramsey, M.D., Approved for Category 1 credit.
Surgical Conference
Weekly, Monday 8:00 a.m., Contact: Eric G. Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m., Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m., Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008.
Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.
Tumor Board
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.
Anesthesiology Morbidity & Mortality Conference
Weekly, Mondays, 2:45 p.m.
Surgery Burn Grand Rounds
Weekly 7:30 a.m.
Medicine Chest
1st & 3rd Monday, 12 Noon.
Medicine GI
2nd & 4th Monday, 12 Noon.
Medicine Dermatology
5th Monday, 12 Noon.
Chest/Surgery
Weekly, Mondays, 1:30 p.m.
Ambulatory Pediatrics
Weekly, 2:45 p.m.
OB Problem Conference
Weekly, Tuesday, 7:30 a.m.
Orthopedic Conference
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.
Medicine Neurology
1st & 3rd Tuesday, 12 Noon.
Medicine Renal
2nd Tuesday, 12 Noon.
Emergency Medicine
4th Tuesday, 12 Noon.
OB/GYN—Tri-Hospital Perinatal Mortality
3rd Tuesday, 12 Noon.
OB/GYN—Departmental Grand Rounds
1st and 2nd Tuesday, 12 Noon.
GYN Endocrine Conference
4th Tuesday, 12 Noon.
Anesthesiology—General
Weekly, Tuesday, 2:45 p.m.
Review of GYN Pathology Slides
Weekly, Tuesday, 4:00 p.m.
Pediatric Grand Rounds
2nd Tuesday, 7:30 a.m.
Pathology Staff Inservice
Weekly, Wednesday, 6:45-7:50 a.m.
Anesthesiology Residents & CRNA's Conference
Weekly, Wednesday, 7:00 a.m.
OB/Neonatal Conference
Weekly, Wednesday, 7:30 a.m.
Surgery
Weekly, Wednesday, 7:00 a.m.
Surgery Hand Conference
Weekly, Wednesday, 7:30 a.m.
Psychiatry Staff
1st Wednesday, 11:00 a.m.
Psychiatry General Conference
2nd, 3rd, & 4th Wednesdays, 12 Noon.
Medicine Cardiology
1st Wednesday, 12 Noon.
Medicine Mortality
3rd Wednesday, 12 Noon.
Medicine Infectious Disease or Hematol
4th Wednesday, 12 Noon.
Pediatrics Renal/Endo Conference
1st Wednesday, 12:30 p.m.
Pediatrics Infectious Disease
4th Wednesday, 12:30 p.m.
Anesthesiology Staff Lecture
1st, 2nd & 4th Wednesday, 2:30 p.m.
Surgery Morbidity & Mortality Conferenc
1st, 2nd & 4th Wednesday, 3:30 p.m.
Anes/Surgery Joint Traum Conference
3rd Wednesday, 3:30 p.m.
Surgery Urology Staff
3rd Thursday, 7:30 a.m.
Anesthesiology Journal Club
4th Thursday, 8:00 a.m.
Ambulatory Pediatrics
Weekly, Thursday, 8:00 a.m.
Surgery Burn Chart Rounds
1st, 2nd, & 3rd Thursdays, 8:00 a.m.
Burn Mortality Conference
4th Thursday, 8:00 a.m.
Medicine Problem Case Conference
1st Thursday, 12 Noon.
Medicine Rheumatology
2nd Thursday, 12 Noon.
Medicine Staff & House (Separate)
4th Thursday, 12 Noon.
OB/GYN Resident Conference
1st, 2nd & 3rd Thursday, 12 Noon.
Vascular Surgery Conference
1st, 2nd & 4th Thursday, 12:30 p.m.
Combined GI & Surgery Conference
3rd Thursday, 12:30 p.m.
Anesthesiology Chief Resident's Lecture
Weekly, Thursdays, 2:45 p.m.
Orthopedic Surgery Basic Sciences
Weekly, Thursdays, 5:30 p.m.
OB/Surgery Pathology
Weekly, Fridays, 7:30 a.m.
Orthopedic Surgery Fracture X-Ray Conference
Weekly, Fridays, 7:30 a.m.
Medicine Endocrinology
1st Friday, 12 Noon.
Medicine Infectious Disease
2nd Friday, 12 Noon.
Medicine/Radiology Conference
3rd Friday, 12 Noon.
Medicine Cardiology
4th Friday, 12 Noon.
OB/GYN Tumor Board
4th Friday, 12 Noon.
Surgery Tumor Board
1st, 2nd & 3rd Friday, 12 Noon.
GYN Endo Conference
1st & 3rd Friday, 12:30 p.m.
Pediatric Radiology Conference
1st & 2nd Friday, 12:30 p.m.
Pediatric Dermatology
3rd Friday, 12:30 p.m.
Pediatric Infectious Disease
4th Friday, 12:30 p.m.
Surgery Rehab Rounds
Weekly, Friday, 1:30 p.m.
Surgery Selected Readings
2nd & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201. Contact: E. John Wickman, M.D.
Continuing Medical Education Programs
Tuesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

:5 N. 20th Ave., Phoenix, AZ 85015.
ntact: J. Burr Ross, M.D., Approved for
tegory 1 credit.
nical Conferences
, 2nd & 3rd Tuesdays, 12 noon,
Floor Auditorium.
C or Medical-Surgical Forum
Tuesday, 12 noon,
Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

12 North 16th St., Phoenix, AZ 85016.
ntact: Leland L. Fairbanks, M.D.,
proved for Category 1 credit.
nical Staff Teaching Conference, Rm. A.
ekly, Wednesday, 8:00-9:00 a.m.
mily Practice/Emergency Room
aching Conference
ursday, Weekly, 7:30-8:30 a.m.,
nf. Rm. A, Contact: Drs. L. Fairbanks &
. Hooper.

PHOENIX MEMORIAL HOSPITAL

01 S. 7th Ave., Phoenix, AZ 85036.
ntact: George Scharf, M.D. Approved for
tegory 1 credit.
nthly Medical Education Seminar
d Monday, 6:30 p.m., Kiva Conf. Rm.
nical Conferences
eekly, Tuesday, 12:30 p.m., Kiva
nference Rm.
ychiatric Clinical Conference
d Friday, 11:30 a.m., B-Wing Conf. Rm.,
ntact: Medical Staff Secretary.
mor Board Conference
eekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

00 East Osborn, Scottsdale, AZ 85251.
ntact: Tom Disney, M.D., Approved for
ategory 1 credit.
mily Practice Conference
t Monday, 12:30 p.m., Doctors' Lounge.
mergency Medical Services Conference
d Monday, 12:30 p.m., Doctors' Lounge.
eurology/Neurosurgery Conference
d Monday, 12:30 p.m., Doctors' Lounge.
PC Conference
h Monday, 12:30 p.m., Doctors' Lounge.
ediatrics Conference
h Monday, 12:30 p.m., Doctors' Lounge.
lmonary Conference
t Tuesday, 12:30 p.m., Doctors' Lounge.
ardiology Conference
d Tuesday, 12:30 p.m., Doctors' Lounge.
rgery Conference
d Tuesday, 12:30 p.m., Doctors' Lounge.
esident Grand Rounds
h Tuesday, 12:30 p.m., Doctors' Lounge.
edical Subspecialties
h Tuesday, 12:30 p.m., Doctors' Lounge.
ronephrology Conference
d Thursday, 12:30 p.m., Doctors' Lounge.
umor Conference
h Thursday, 12:30 p.m., Doctors' Lounge.
l/Med/Surg/Radiology Conference
d Friday, 12:30 p.m., Doctors' Lounge.

ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.

Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am., Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium.
Chest Conference
4th Monday, 12:15 p.m., Phillips Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips Auditorium.
Psychiatry Conference
3rd Thursday, 7:00 a.m., Auditorium.
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m., Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.
Pediatric Grand Rounds
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.
ECG Conference
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
Medical Grand Rounds
Weekly, Wednesday, 8:00 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 8:00 a.m., PIMC.
Visiting Professor Informal Presentation
Weekly, Thursday, 9:30 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 12:30 p.m., PIMC.
Nephrology Conference
Weekly, Fridays, 12:30 p.m., Pediatric Department.

ST. JOSEPH'S HOSPITAL TUCSON

350 N. Wilmot Road, Tucson, AZ 85711
Contact: Yvonne Clingerman, Medical Staff Office. Approved for Category 1 credit.
Current Concepts in Medicine
Weekly, Tuesday, 12 Noon, Auditorium
A Talk on Allergies
Weekly, Tuesday, 12 Noon, Auditorium
Surgery Department Conference
4th Monday, 12 Noon, Auditorium
Hematology/Oncology Conference
Last Wednesday, 12 Noon, Contact: Nick Mansour, M.D.
Ophthalmology Case
2nd Tuesday, 7:30 a.m.
Ophthalmology Society
4th Tuesday, 6:00 p.m., Auditorium
Contact: Leonard Joffe, M.D.

ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.
Monthly Specialty Conference — Dept. of Surgery
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.
Joint Liver Conference - Lab Conference Room
2nd Monday of each month - 12:00 noon.
Grand Rounds: Medical, Surgical, Family Practice, Pathology, Radiology
Weekly, Thursday.
Emergency Medicine Lectures
Weekly, Thursday, 8:00 a.m., Century Rm. A.
Cardiology Conference
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5, Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5, Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435, Contact Dr. Benene, Ext. 786
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo, Ext. 362 and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134, Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference
1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.

G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon,
Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410, Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m., Room 4115, Contact: Dr. Rohwedder, Ext. 388.
Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435, Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.
Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5,
Contact: Dr. Zeller, Ext. 272
Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435,
Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512,
Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435,
Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134,
Contact: Dr. Haddad, Ext 418.
Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Contact Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134,
Contact: Dr. Cintora, Ext. 417.

PRESCOTT VETERANS ADMINISTRATION HOSPITAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
Medical Rounds
1st & 3rd Thursdays, 10:00 a.m.-2:30 p.m.
Surgical Rounds
4th Thursday, 10:00 a.m.-2:30 p.m.

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3601 South Sixtieth Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
Medical/Surgical Chest Conference
Weekly, Tuesday, 2:00 p.m.,
Contact: Dr. Young.
Medical Grand Rounds
Weekly, Wed., 12:00-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC),
Contact: Jay Smith, M.D.
Surgical Grand Rounds
Weekly, Wed., 4:00 p.m.,
Contact: Dr. Putnam.
Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m., Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107,
Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Conf.
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m.,
Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A , Yuma, Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon,
Contact: M. Maximov, M.D.
Dermatology Conference
4th Monday, 5:00 p.m.,
Contact: R. Miller, M.D.
Endocrinology Conference
4th Monday, 12 Noon,
Contact: M. Parker, M.D.
Nephrology Conference
2nd Monday, 12 Noon,
Contact: Stephen Seltzer.
Psychiatry Department Meeting
3rd Monday, 12 Noon,
Contact: Howard Winkler, M.D.
Perinatal Conference
2nd Tuesday, 7:00 a.m.
Surgical Conference
2nd Tuesday, 7:15 a.m.
Hematology Conference
4th Tuesday, 12 Noon,
Contact: Gerald Giordano, M.D.
Pulmonary/Infectious Disease Conferen
Weekly except 4th, Tuesday, 12 Noon,
Contact: B. Friedman, M.D.
Orthopedic Conference
1st Tuesday, 7:30 p.m.,
Contact: Jay Katz, M.D.
Pediatric Grand Rounds
1st & 3rd Tuesdays, 12:30 p.m.,
Contact: Dr. Lightner.
Neurophysiology Conference
2nd Tuesday, 5:00 p.m.,
Contact: Robert Foote, M.D.
Clinical Pathology Conference
Last Wednesday, 8:00 a.m.,
Contact: Dr. Fuchs.
Medical Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: M. Fuchs, M.D.
Neuorology-Neurosurgery Conference
Weekly, Wednesday, 12 Noon,
Contact: H. W. Buschsbaum, M.D.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: N. Komar, M.D.
Tumor Conference
Weekly, Thursday, 12 Noon,
Contact: Cancer Committee.
GI Conference
Weekly, Friday, 12 Noon,
Contact: Charles Sanner, M.D.
Interhospital Nuclear Medicine Conferen
Weekly, Friday, 7:15 a.m.,
Contact: S.V. Hilts, M.D.
OB/GYN Conference
1st Friday, 7:30 a.m.,
Contact: Charles Parker, M.D.
OB/GYN Pathology Conference
3rd Friday, 7:30 a.m.,
Contact: R. Spark, M.D.

U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.
Anesthesiology Board Review Conferenc
2nd & 4th Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contacts:
Drs. Vaughn & Kryc.
Anesthesiology Basic/Clinical Sciences Lectures
Weekly, Thursday, 4:00-5:00 p.m.,
Room 5403.
Anesthesiology Case Discussion
Weekly, Wednesday, 7:00 a.m., AHSC,
Dining Rm. C&D.
Anesthesiology Resident Presentation
1st Monday, 4:00-5:00 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
Cancer Center Tumor Board Seminar
3rd Tuesday, Monthly, 12:00-1:00 p.m.,
HSC Auditorium, Contact: Cancer Center.
Cardiac Catheterization Conference
Weekly, Friday, 4:30 p.m.,
Contact: Dr. Ewy.
Cardiology Non-invasive Conference
Weekly, Friday, 3:30 p.m.,
Contact. Dr. Ewy.
Tucson Cardiac Society
1st Thursday, 6:30 p.m., Arizona Inn,
Contact: Karen Garcia.
Clinical Immunology, Allergy & Rheumatology Rounds
Every Friday, Noon-1:00 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.

rebrovascular Disease Conference
ndays, 5:00-6:00 p.m., Weekly,
. 5505., Contact: Jerry Goldstone, M.D.,
pt. of Surgery.

rmatology Conference
Monday, 5:15 p.m., AHSC,
ntact: Dr. R. Friedman.

rmatology Rounds
eekly, Wednesday, 11:30 a.m.,
ntact: Dr. Lynch.

r, Nose & Throat Conference
eekly, Wednesday, 4:00 p.m.,
ntact: Dr. S. Coulthard

docrinology Seminar
eekly, Thursday, 12:00-1:00 p.m.,
ntact: Dr. Johnson.

ergency Medicine Grand Rounds
esdays, 9:00 a.m., AHSC,
ntact: Dr. Sanders.

Pathology Conference
Friday, 1:30 p.m., AHSC,
ntact: S. Paplanus.

Radiology Conference
d & 4th Mondays, 7:30 a.m., AHSC,
ntact: Dr. T. Hunter.

ead & Neck Tumor Management
nference
eekly, Wednesday, 4:00 p.m.,
ntact: Dr. Murrell.

matology-Oncology Clinical Conference
t & 5th Tuesdays, Noon-1:00 p.m.,
n. 6505. Contact: S. Salmon, M.D.,
ept. of Internal Medicine.

edical Grand Rounds
eekly, Wednesday, 12:00-1:00 p.m.,
HSC, Contact: Dr. J. Smith.

orbidity/Mortality in E.M.
d Tuesday, 9:00 a.m., AHSC,
ntacts: Drs. Hughes & Alcorn.

euromuscular Disease Conference
eekly, Friday, 11:30 a.m.,
ntact: Dr. Stern.

europathology Case Review
eekly, Friday, 8:30 a.m., UAHSC,
ntact: Dr. P. Johnson.

euroradiology Conference
eekly, Thursday, 5:00 p.m.,
ntact: Dr. P. C. Christenson.

euromuscular Journal Conference
d & 4th Thursdays, 7:00-9:00 p.m.,
ntact: Dr. Stern.

eurosciences Seminar
eekly, Tuesday & Friday, 7:30 a.m.,
HSC, Contact: Dr. C. Bamford.

uclear Medicine
eekly, Thursday, 7:30 a.m., AHSC
adiology Conference Rm.

B/GYN Lectures
eekly, Friday, 3:30 p.m., AHSC,
ontact: Dr. C. D. Christian.

phthalmology Grand Rounds
d Friday, 7:30 a.m., AHSC,
ontact: Dr. J. Herschler.

phthalmology Retina Fluoro. Conference
eekly, Thursday, 5 p.m., AHSC,
ontact: Dr. H. Cross.

rthopedic Rounds
aturday, 8:00 a.m., Contact: Dr. Peltier.

ain Conference
d Monday, 4:00-5:00 p.m., AHSC Dining
m. C&D, Contact: Drs. Hameroff & Cork.

athology Conference
eekly, Monday, 12 noon, AHSC,
ontact: Dr. C. D. Christian.

athology Seminar
eekly, Friday, 4:30-5:30 p.m., AHSC,
m. 5120. Contact: Dr. P. Finley.

Tucson Pathologist Conference
1st Monday, 7:30 p.m., AHSC,
Contact: Dr. A. R. Graham.

Pediatric Grand Rounds
2nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
Contact: Dr. H. Thompson.

Pediatric Problem Patient Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Lillian Valdes-Cruz.

Pediatric Research Forum
Weekly, Tuesday, 7:30 a.m.,
Contact: Dr. Otakar Koldovsky.

Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.

Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.

Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.

Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.

Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.

Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.

Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.

Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.

Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.

Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.

Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.

Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.

Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.

Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.

Trauma Conference
Thursday, 4:00-5:00 p.m. AHSC, Rm. 5505.

Toxicology Conference
Weekly, Tuesday, 8:00 a.m.,
Contact: Dr. Keith Likes.

Tucson Ultrasonography Group
Weekly, Wednesday, 4:30 p.m., AHSC,
Contact: Dr. I. Freundlich.

General Urology Conference
Weekly, Tuesday & Thursday, 12:00 noon,
AHSC & VA Hospital
Contact: Dr. G.W. Drach.

Vascular Surgery Conference
Weekly, Tuesday, 4:00-6:00 p.m., AHSC,
Contact: Dr. J. Goldstone.

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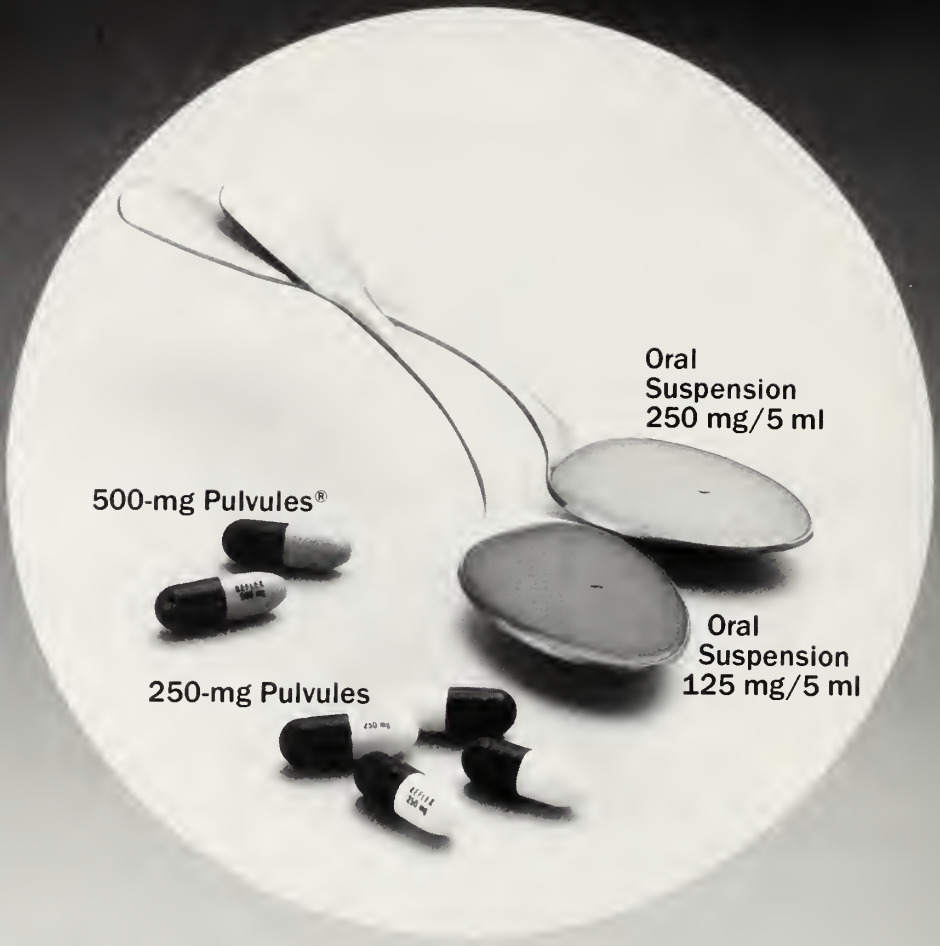
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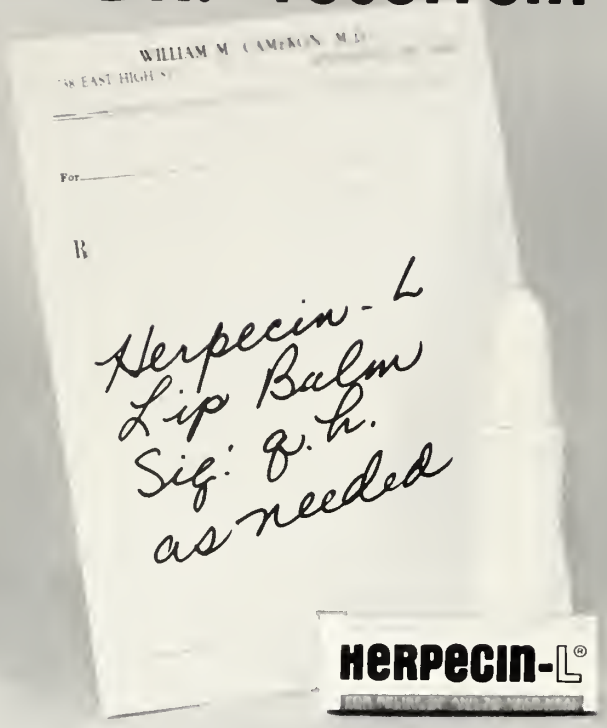
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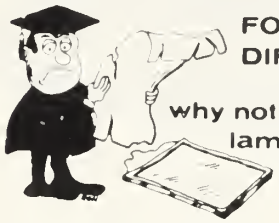
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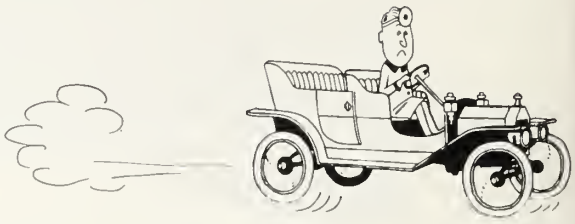
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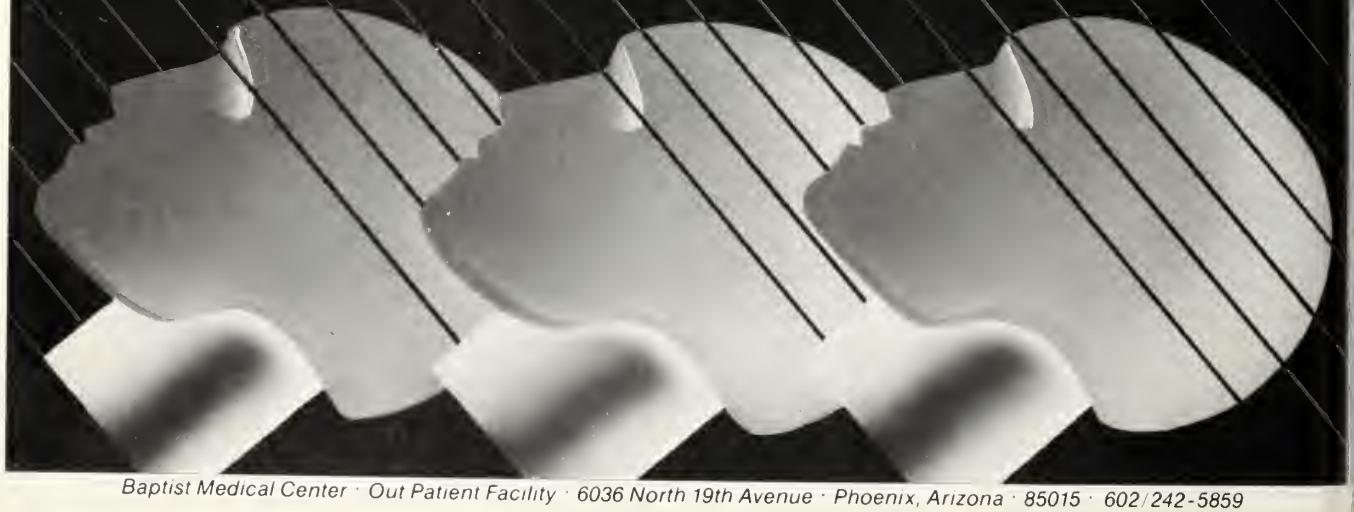
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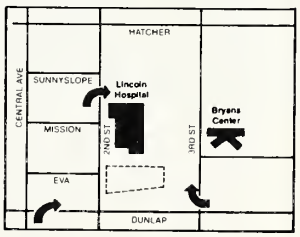
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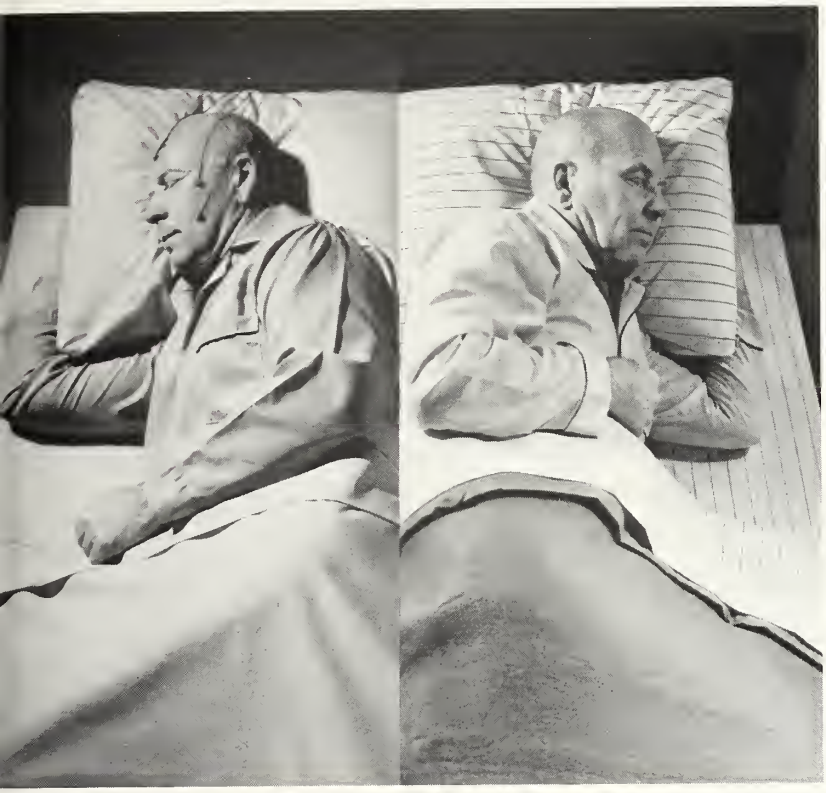
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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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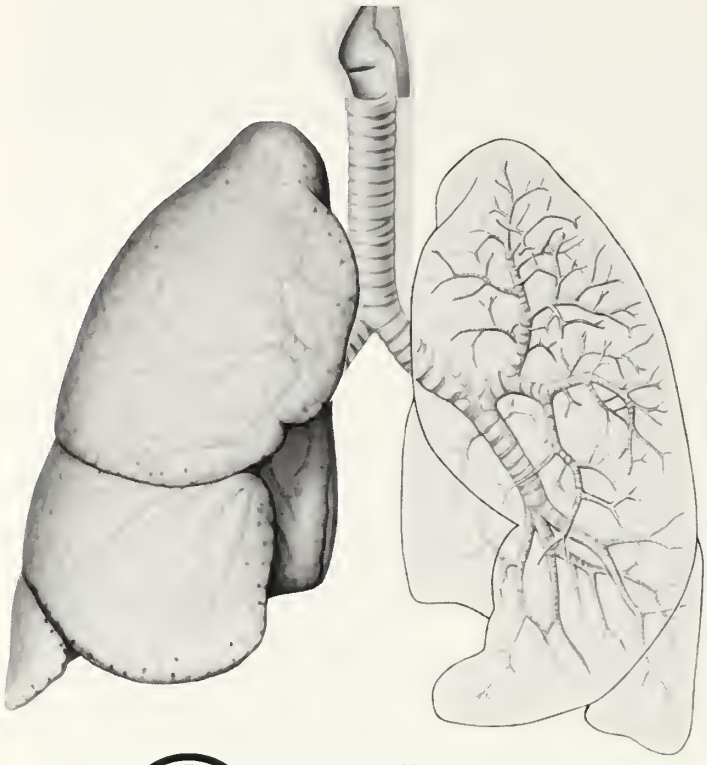
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Brief Summary Consult the package literature for prescribing information

Indications and Usage Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings IN PENICILLIN SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782F

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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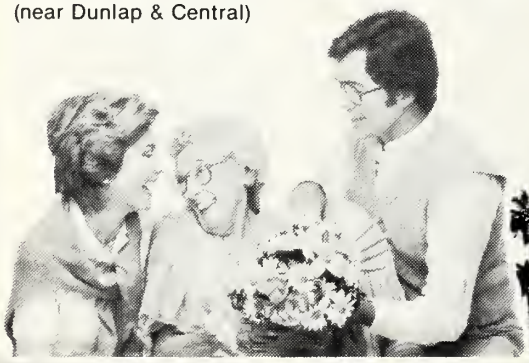
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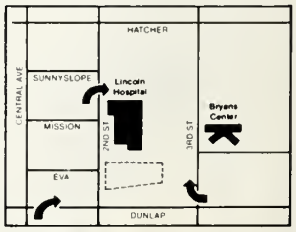
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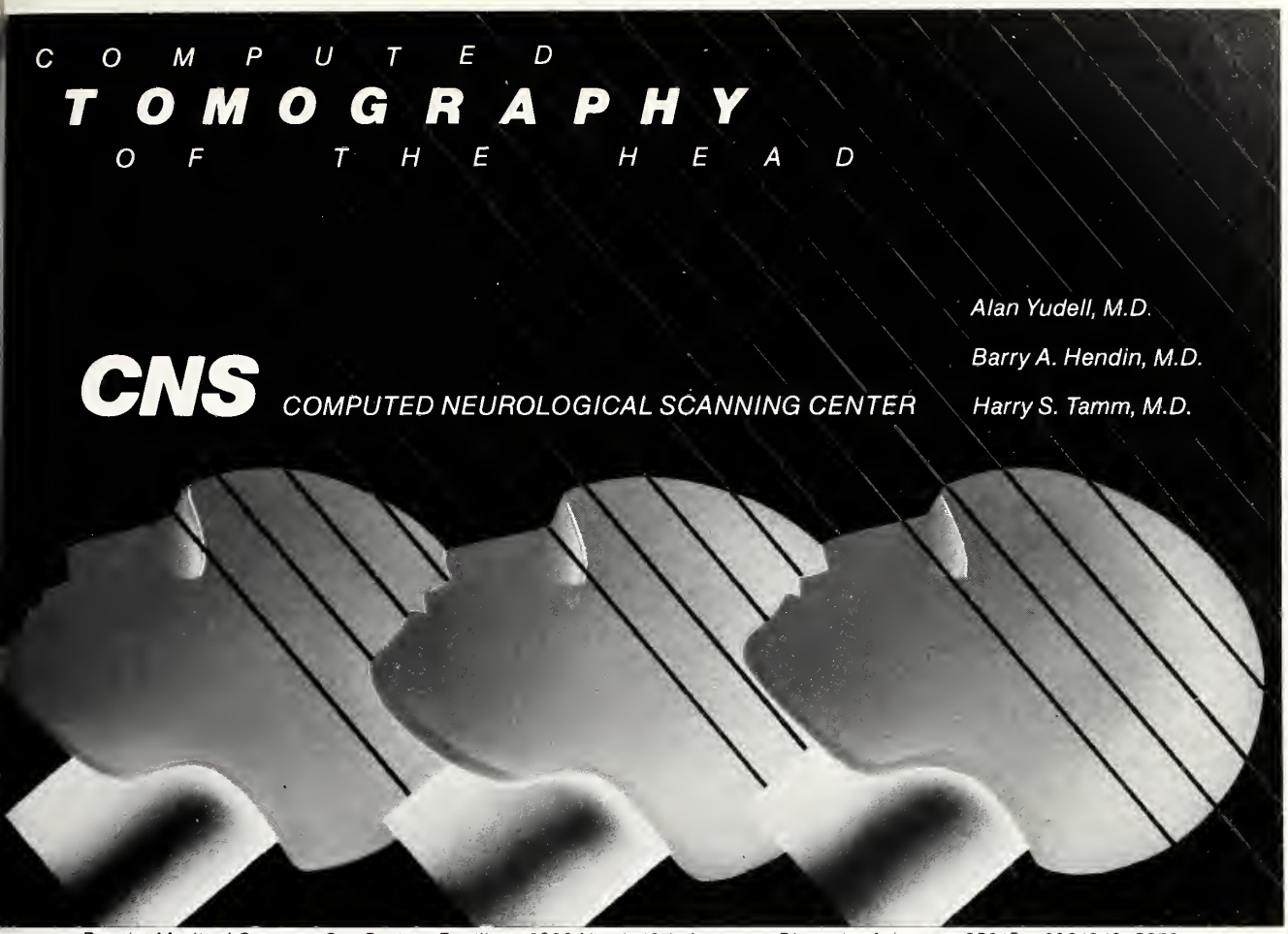


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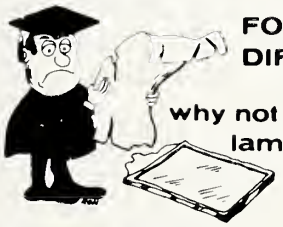


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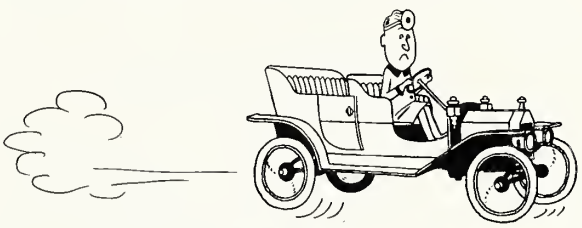
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Alcohol Cardiomyopathies

Marilyn Rae Geninatti, M.D.
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Editor:
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Both acute and chronic alcohol consumption have been associated with cardiac decompensation. A fulminant cardiomyopathy may occur from constituents contained in alcoholic beverages as in the case of cobalt induced cardiomyopathy. Congestive cardiomyopathy may arise as a result of alcohol induced vitamin deficiency, presenting as wet beriberi and the more fulminant Shoshin beriberi. Finally, alcohol itself has been cited as the most common cause of nonischemic cardiomyopathy in the Western world.

Cobalt Cardiomyopathy

First reported in Belgium and soon afterwards in Quebec, Omaha and Minneapolis, the cardiotoxicity of cobalt became apparent in 1964.[1] In 1957, this chemical was discovered to stabilize the foam in beer and soon became a popular additive in European and North American beers. Patients presenting with cobalt toxicity were usually males who consumed large quantities of beer. The toxicity, often called a pericardiomyopathy, was characterized by marked anorexia.[1] The biologic effects of cobalt have been reported by Webb,[2] who noted inhibition of oxyglutarate dehydrogenase. Massive exudative pericardial effusions develop in virtually all patients afflicted with cobalt cardiomyopathy[1] and these effusions account for the enlarged cardiac silhouette often identified by chest x-ray.[3] The presence of large effusions accounts for the elevated jugular venous pressure, narrow pulse pressure and sinus tachy often present on physical examination.[1,3] Electroc grams are characterized by low voltage, again refl the substantial fluid layer surrounding the hea decreased left ventricular ejection time may be corresponding to decreased contractility. Another ing feature of cobalt induced cardiomyopathy elevation of hemoglobin levels to a mean of 18.5 G Cobalt induced polycythemia is a well-known p menon; the chemical has been used to prever anemia of pregnancy, sickle cell disease and a bone marrow.[4,5]

The typical presentation of this cardiomyopath abrupt and often catastrophic; in one series 40% o jects died within three days of hospitalization. Prof shock and multiple arterial emboli were terminal e in many of these patients.[6] In addition to the sta therapies for heart failure and vitamin replenish both beta adrenergic blocking agents and anaboli roids have been reported to have beneficial effe the treatment of cobalt induced cardiomyopathy.

On postmortem examination, four chamber ca dilation is seen with predominant right ventri enlargement[8] in affected subjects. Systemic emboli inating from mural thrombi have been observe majority of autopsied cases.[6] Reduction of cardiac cle succinodehydrogenase activity correlates wit degree of cobalt toxicity.[9]

Beriberi Heart Disease

Since thiamine acts as a coenzyme in carbon analog cleavages, carbohydrate metabolism an transketolase reaction of the pentose phosphate are dependent on its presence. Beriberi, the di state produced by dietary thiamine deficiency (in S alese, beri = I cannot) may also be precipitated by high in carbohydrates.[10] The alcoholic cons carbohydrate-rich ethanol deficient in thiamine. weeks of vitamin deprivation may produce cl sequelae. Dry beriberi refers to the combined se motor peripheral neuropathy associated with pare sias, decreased deep tendon reflexes, and glossiti

There are several criteria for the diagnosis of ca beriberi:[11] 1) insufficient evidence for other etiolo three or more months on a thiamine deficient di signs of neuritis or pellagra, 4) enlarged heart with rhythm, 5) dependent edema, 6) elevated venous sure, 7) minor electrocardiographic changes, and covery with decrease in heart size or autopsy consi with beriberi heart disease.

Characteristically, marked edema and vasodil with warm extremities herald this state. A high ca output, peripheral arteriovenous shunting resultin decreased arteriovenous O_2 difference, low syst vascular resistance, and biventricular failure with rhythm are all classical hallmarks of beriberi hear ease.[12] Chest pain with normal coronary arteries is mon. Clinically, a wide pulse pressure, elevated ju venous pressure, third heart sound and apical sy murmur are frequently noted. Electrocardiograms

From: Good Samaritan Medical Center, Institute for Cardiovascular Diseases, 1111 East McDowell Road, Phoenix, Arizona 85006. Supported in part by the E. Nichols Memorial Fund and The Institute for Cardiovascular Diseases, Inc., Phoenix, Arizona. Reprint requests to Alberto Benchimol, M.D., Good Samaritan Medical Center, P.O. Box 2989, Phoenix, Arizona 85062.

rmal, or may show low voltage, inverted percordial es and/or prolonged QT intervals. The chest x-ray uggest biventricular enlargement, pulmonary vas- congestion and pleural effusions. Hemodynamic lates of this disease include elevated right atrial ure, stroke volume and pulmonary capillary wedge ure. Cardiac outputs are characteristically elevated decreased systemic vascular resistance.[13]

devastating form of beriberi, known as Shoshin eri, (Shoshin: Sho = acute damage, a Hack, stroke; = heart), is characterized by severe biventricular e, lactic acidosis, hypotension, cyanosis, skin mot- and oliquria. Death within 48 hours is the rule if nts are left untreated. Peripheral resistance remains nd cardiac output elevated until very late in the e of this syndrome.[14-16] Thiamine deficiency pro- arteriolar vasodilatation and consequent arterio- us shunting. Both factors appear to play a physiologic role in the accelerated circulation and kinetic[13] state present in beriberi heart disease and nized in 1934 by Wenckebach.[17]

atment of both forms of beriberi consists of rapid hine administration, usually by the parenteral route. hine utilization may be dependent on magnesium, n may also be deficient in alcoholics.[18] In addition, tin, oxygen supplementation, diuretics, bedrest alt restriction are recommended in the acute stage. e laboratory diagnosis of beriberi can be made by 1) onstration of elevated serum lactate and pyruvate , 2) reduction of red blood cell transketolase, 3) nished levels of thiamine in the blood, and 4) aug- ation of whole blood or red cell transketolase lev- llowing thiamine administration.[10,12]

ol-induced Cardiomyopathy

ohol has been implicated in as many as 50% of cases ongestive cardiomyopathy.[19] Strict criteria must, ver, be met before a cardiomyopathy can be attrib- to alcohol. Typically alcoholic cardiomyopathy s in men aged 30 to 55 years with a history of ol intake equaling 30% to 50% of calorie consump- over a period of 10 to 15 years. Other causal factors e development of left ventricular failure such as osclerotic, valvular, hypertensive or congenital disease must be excluded.[20,21]

clinical cardiovascular abnormalities have been ibed in otherwise healthy alcoholics. Systolic time val estimation has shown an increase in the pre- on period which correlates inversely with the con- le state of the myocardium. Shortening of the left icular ejection time has also been documented, sponding to a reduced stroke volume.[22-24] In er study, mean heart rate was higher and both ic and diastolic pressures lower in alcoholic nts without cardiomyopathy when compared with al controls.[25] Diastolic abnormalities reflecting ased myocardial wall stiffness have also been des- d prior to onset of overt failure. Pathologic features as biventricular dilation and focal myocardial sis have been observed in 22 of 43 hearts from alcoholic subjects without clinical heart disease.[26]

Symptoms of alcohol induced cardiomyopathy may develop insidiously or be presaged by a bout of atrial fibrillation or acute florid congestive failure. The symptoms are those of any congestive cardiomyopathy with dyspnea on exertion, paroxysmal nocturnal dyspnea, and orthopnea, reflecting left ventricular decompensation. Palpitations, atypical chest pain and syncope are frequent complaints.[27]

Physical examination reflects the congested circulatory state. Signs of left ventricular dysfunction often predominate, whereas right heart failure occurs secondarily. Tachycardia and a narrow pulse pressure with diastolic hypertension reflect a low output state and compensatory peripheral vasoconstriction respectively. Pulsus alternans has been correlated with a reduced stroke volume. Basilar rales and dull lung bases may reflect increased lung water. Examination of the heart often reveals a left ventricular heave, third and fourth heart sounds and a systolic murmur suggestive of atrioventricular valve incompetence. As right ventricular failure supervenes, jugular venous distention, an enlarged and pulsatile liver, and pedal or pretibial edema may be found.[21,28]

Laboratory changes may reflect the coincident malnutrition and ethanol induced changes in hematopoiesis. Decrease in hematocrit, Mg^{++}, K^{+}, phosphorus, Ca^{++}, and albumin with an elevation of noncardiac CPK levels have all been described. Interestingly, liver enzyme and coagulation abnormalities are distinctly unusual in most patients with the congestive cardiomyopathy of alcohol.[29] Disturbances of the immune state have also been documented.[30]

Electrocardiographic abnormalities or rhythm disturbances are virtually always present in patients with alcoholic cardiomyopathy. The various electrocardiographic changes in such patients with their prevalence is listed in Table 1.

Table 1
Electrocardiographic Findings in Patients With Alcoholic Cardiomyopathy

Abnormality	Prevalence
S-T segment and T wave changes	100%
Atrial fibrillation	17%
Left ventricular hypertrophy	66%
Biatrial enlargement	52%
Left atrial enlargement	23%
First degree A-V block	34%
Left anterior fascicular block	26%

A rare case of complete heart block has been reported in association with alcoholic heart disease.[32] Prolongation of the QT interval has also been cited. Exacerbations of rhythm disturbances and sudden death have been reported following binge alcohol consumption, i.e., the "holiday heart syndrome." This phenomenon is observed in alcoholic patients with and without overt cardiomyopathy.[33,34]

M-mode and 2-dimensional echocardiographic features of alcoholic cardiomyopathy reflect the predominant left ventricular involvement. Left ventricular enlargement, septal and free-wall thickening, and decreased fractional shortening are common. Pericardial effusions may be identified. Abnormalities of mitral valve motion are common and in advanced cases, right ventricular enlargement is also observed.[35]

Cardiac catheterization data reveal the increased left ventricular end-diastolic pressure, decreased stroke volume, reduced cardiac output, and in up to 25% of cases, mitral regurgitation. Pulmonary systolic and diastolic hypertension may be present. Left ventriculography usually reveals an enlarged ventricle and diffuse hypokinesis. Coronary arteriography usually discloses normal vessels,[12] even in patients with electrocardiographic evidence of myocardial infarction.[36] Numerous biochemical changes have been described in heart muscle of clinical or experimental alcoholic cardiomyopathy.[37-40] Taken together, these derangements indicate a profound disturbance of all aspects of myocardial metabolism.

Pathologically, four chamber enlargement is seen with predominance of the left ventricle. Mural thrombi are common and significant coronary artery disease is rare. Microscopic changes related to alcoholic cardiomyopathy include myofibrillar damage and lysis, dilated sarcoplasmic reticulum, separation of the intercalated discs, increased numbers of lipofuscin granules, focal edema of endothelial cells, and occasional fusion of mitochondria, so called "megamitochondria."[41,42] Severe perivascular fibrosis has been noted, and may correlate with decreased segmental wall motion seen in vivo studies.[43]

Treatment of alcoholic cardiomyopathy is based on three general principles: 1) prevention of further myocardial damage, 2) reduction of heart size, and 3) correction of basic fluid and electrolytic disturbances. Complete reversal of documented congestive cardiomyopathy due to alcohol has been repeatedly documented by absolute abstention from alcohol.[25,44,45] One study[46] correlated a short duration of symptoms before treatment and total abstention with chances for clinical improvement. Seventy-three percent of those who improved had abstained. Of eighteen patients who did abstain, eleven improved; three remained stable, and four worsened clinically. Mean duration of symptoms before treatment was four months in the group who showed regression of the disease, 17 months in those with no change, and 11 months in those where the disease process worsened. Heart size returned to normal in two-thirds of those who stopped drinking alcoholic beverages. Clinicians advocating prolonged (i.e., one year) bedrest in the treatment of alcoholic cardiomyopathy[27] undoubtedly invoked abstention as the primary mode of improvement. Replacement of electrolyte (Mg^{++}, K^{+}) and presumed thiamine deficiency is mandatory in treatment of congestive cardiomyopathy due to alcohol. Sodium and water restriction coupled wi
retics may help reduce congestion and hear
Inotropic support with digoxin is often recomme
and in severe decompensation, intravenous dob
ine has been employed. Both preload and aft
reducing agents have been utilized to reduce le
tricular distention and augment stroke volume r
tively.[21,38] The use of oral anticoagulants for patien
dilated cardiomyopathy and paroxysmal atrial f
tion appears justified to decrease the incidence
monary and systemic emboli, but potential b
must be weighed against the risk of bleeding
afflicted subject continues to imbibe alcohol. Th
cal issues involved in cardiac transplantation as
resort in such cases are as yet unresolved.

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Dermatology

Poison Ivy Dermatitis in Arizona

Daniel Beeaff, M.D.

Editors:
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Introduction

The plant family, Anacardiaceae, of which poison ivy is a member, is one of the most frequently occurring causes of plant dermatitis. Exposure to the genus, toxicodendron (formerly known as Rhus), poison ivy, oak and sumac (its most well-known members) is a common source of occupational dermatitis, particularly a problem in California, with a reported 4,000 cases annually.[1] Those most affected are the outdoor occupations such as the forest service personnel, geologists, and the lay public who enjoy outdoor activities.

Poison ivy occurring in Arizona is of two varieties, namely, toxicodendron radicans ssp. divarcatum, and T. rydbergii. To be precise, the technical or botanical names should be used, as the common names of "ivy" or "oak" can cause some confusion. Technically speaking only poison ivy occurs in Arizona and not poison oak (T. diversilobum or T. querquifolium), or poison sumac (T. vernix).

A recent review[2] of poison ivy and related problems, lists a limited area within the state of Arizona, namely, Upper Bear Canyon in the Catalinas of Southern Arizona, as having poison ivy. However, it was becoming increasingly apparent in my own practice of dermatology that many patients who presented with the characteristic features of poison ivy dermatitis were exposed in a wider geographical distribution than the article led me to believe. No ready source of information was found that could help define the extent of this common problem within Arizona, and help confirm our clinical suspicions, as well as provide the practicing physician

From: Associated Dermatologists, P.C., Tucson Medical Park Building F, 5402 East Grant Road, Tucson, Arizona 85712. Reprint requests to Daniel Beeaff, M.D., 5402 East Grant Road, Tucson, Arizona 85712.

geographical locations to help advise those patients with known poison ivy sensitivity.

A questionnaire was sent to all the practicing dermatologists within Arizona to help better define the problem, as well as seeking information from our three state university botany departments, and from the National Forest Service.

Questionnaire

Approximately 80 dermatologists, actively practicing in Arizona, were sent questionnaires in an attempt to define the following questions: 1) How widely distributed is the problem, and in what specific locations does poison ivy occur in Arizona? 2) How well-known are these locations? 3) What percentage of the physicians' cases were found to be acquired within the state as opposed to outside the state? 4) What approximate number of cases of poison ivy were being seen in a one-year period of time? 5) Are there any other locally growing plants, other than the toxicodendron genus, that are also capable of causing plant dermatitis and perhaps even be confused with poison ivy dermatitis?

The questionnaire was arbitrarily divided into northern, central and southern divisions. There were 28 (35%) questionnaires completed and returned. There were 15 of 28 (53%) responses from southern Arizona, 12 of 54 (22%) from central Arizona, and 1 of 2 (50%) from northern Arizona.

Results

The physicians were fairly evenly split between a "guestimate" of 0 to 5 patients seen during 1983 with poison ivy, 16 to 28 (57%), and 6 to 19 patients, 12 of 28 (42%).

Approximately 57% (16 of 28) of the respondents felt that their cases were acquired within Arizona, while 35% (10 of 28) thought that they were either acquired outside the state or equally divided between the two choices. The most common state outside of Arizona where patients frequently acquire poison ivy was, as expected, California. Other states mentioned were New Mexico, Colorado and Georgia.

The following plants were noted by the physicians as causing a dermatitis that might be confused with poison ivy (the parenthesis following the plant represents the number of physicians noting that particular plant): purple heliotrope (5), oleander (1), fiddleneck (1), wildflowers (1), sumac (1), milkweeed (1), ragweed (1), mesquite (1), and none known (14 or 50%).

Those plants causing dermatitis but not felt distinctive enough to be confused with poison ivy were: scorpion weed (purple heliotrope-Yuma area) (1), artificial oranges (Phytophotocontact dermatitis) (1), creosote (1), cactus (1), philodendron (1), and none known (20 or 71%).

The areas within the state divided by regions where the local dermatologists were seeing most of their cases being acquired were: southern Arizona-Madera Canyon (Santa Rita Mountains) (8); Sabino Canyon (Catalina Mountains) (3); Catalina Mountains — Mount Lemmon (7); Chiricahuas (2); Huachucas (Garden Canyon, Huachuca Canyon) (1); nonspecific loc outside of southern Arizona — Oak Creek, Strawl White Mountains (5); and none known (4). Nor Arizona: West Fork of Oak Creek (1).

Lastly, 78% (22 of 28) of the physicians respondin that the number of cases they have been seeing wer increasing in frequency but were remaining rathe ble, while one physician felt they were increasi frequency, and one felt they were actually decre The remainder did not respond to the question.

Discussion

The toxicodendron genus of the family anacardia are frequently encountered throughout the U States and are capable of cross-reacting with related genera within the same family of plants. Ma these cross reacting plants occur worldwide. Ther five species of toxicodendron found in the United S represented by poison sumac, T. diversilobum (S East U.S.A.); poison sumac, T. vernix (Southeast Ca and the Eastern U.S.A.); poison ivy, T. radicans several ssp. represented in U.S.A.), and T. rydbergi two locally growing members in Arizona.[2]

In general, T. rydbergii grows primarily in the n ern portion of Arizona, while its counterpart, T. cans, grows in the southern portion of the stat addition to the general characteristics of three-gro leaflets, well known to most people, they can be d guished by the fact that T. rydbergii grows primaril shrub while T. radicans grows as a vine. Poison ivy g ing as a shrub can account for the mistaken ident poison oak or sumac growing in Arizona. The bota features are well known as have been desc elsewhere.

The antigenic portion of the toxicodendrons occ the sap, which contains a complex mixture of oleor or, rather, a mixture of different resins and essentia as well as other chemical constituents. The oleores toxicodendron is referred to as urushiol, and its pri sensitizing portions are the pentadecylcatechols. sensitizing ability is so potent that it has been specul that approximately 70% of the general population c become sensitized if they were inadvertently expos the plants. The degree of sensitivity can vary widely relatively minor reactions to quite severe, almost reactions. Some people are so sensitive that co indirectly with smoke of the burning plants or oleor on the fur of pets, for example, can cause a dermati

The clinical features, although not completely nostic, are certainly suggestive of the diagnosis of pc ivy, with the appearance of streaky, linear pr papules and vesicles on exposed skin. This str appearance should not necessarily be consid pathognomic since other plants brushing against skin could produce a similar clinical appearanc could insect bites and caterpillar dermatitis. Howev consistent clinical appearance and exposure in a kn area with poison ivy should suffice in making a diagn Routine patch testing to poison ivy is to discouraged.[3,4]

nis survey, several points became quite evident. s Table 1 points out, poison ivy dermatitis is prevalnd thriving in Arizona. Many of the physicians, asked about locally occurring areas with poison sponded with vague generalities or nonspecific ons. Many were unaware that there were local containing the plant. Certainly a list providing ic locations in Arizona where poison ivy has been nented to be growing might help in delineating oblem better. Table 1 derives from the questionas well as information gleaned from numerous individuals (see acknowledgements).

Table 1
Specific Locations of
Poison Ivy in Arizona by County

Apache
Bog Creek, 8 miles East of McNary, Highway 73; Black River Drainage; Canyon del Muerto, Canyon de Chelly. Upper Little Colorado River Drainage.
Butler Canyon

Coconino
West Fork in Oak Creek Canyon
Oak Creek Canyon
Tonto Creek
North Kaibab District: None known.
South Kaibab District; Williams District; Chalender District; Tusayan District: Present but not specific.
Any Drainage System with intermittent or perennial streams. (True for any area of Arizona).

Cochise
Paradise
Chiricahua Mountains: Steward Campground, Silver Spur Meadows, Bonita Creek, West Whitetail Canyon, Rhyolite Canyon, Chaperon Canyon, Rucker Canyon, Turkey Creek, South Fork Cave Creek, Cave Creek, Pine Canyon, Pinery Canyon, Horsefall Canyon, Jhus Canyon
Peloncillo Mountains: Cottonwood Creek, Clanton Draw, Cloverdale Creek, Guadalupe Canyon, Dragoon Mountains: Salvin Gulch, Middlemarch Canyon, East Stronghold Canyon, West Stronghold Canyon, Fourr Canyon
Galiuro Mountains: Hooker Hot Spring, Fourmile Canyon, High Creek, Ash Creek, Redfield Canyon near Bisbee
Huachuca Mountains: Ransey Canyon, Carr Canyon, Miller State Park, Morgan State Park Canyon, Copper Canyon, Sunnyside Canyon, Scotia State Park, Lyle Canyon, Parker Canyon

Gila
Sierra Anchas Forst Camp, Parker Creek
Tonto Creek Camp
Pine

Graham
Pinaleno Mountains: Noon Creek, Stocton Pass, Grant Creek, Trip, North Taylor, Ash Creek, Marijilda.
Black River Drainage

Greenlee
Black River Drainage

Mohave
Burro Creek Camp

***Navajo**
Show Low Lake
Betatakin
Junction of North Fork of the White River and Trout Creek, Fort Apache Indian Reservation
Sagie Canyon
Navajo Reservation: Most Canyons

Pima
Catalina Mountains: Bear Canyon, Molino Canyon, Soldier Canyon, Sabino Canyon, Rattlesnake Canyon, Ventana Canyon, Finger Rock, Pima Canyon, Alamo Canyon, Cargodera Canyon, Canada del Oro, Peppersauce Canyon, Buehman Canyon, Rincon Mountains: Ash Creek, Paige Creek, Tanque Verde

****Santa Cruz**
Sycamore Canyon
Santa Rita Mountains: Madera Canyon, Stone Cabin Canyon, Box Canyon, Josephine Canyon, Temporal Gulch, Adobe Canyon, Hog Canyon, Gardner Canyon, Barrel Canyon
Altascosa Mountains: Sycamore Canyon, Peck Canyon, Pena Blanca
Tumacacori Mountains: Rock Springs, Sardina Canyon, Sonoita Creek
Patagonia Mountains: Harshaw Creek

Yavapai
Montezuma's Well
Hassayampa Creek

***Yuma**
Grapevine Springs, South of the Santa Maria River

*T. Rydbergii
**T. Radicans

Most of the physicians felt that the dermatitis was acquired in the state, and a rough range of 0 to 19 patients seen in one year by this small sample of physicians suggests that the problem may actually be quite common in most medical practices. It would certainly be expected that a portion of the cases be acquired from neighboring states.

Of particular interest in the survey was the different plants other than poison ivy noted to cause dermatitis. Since many plants are capable of causing dermatitis and a discussion of all of them is beyond the limits of this article, the reader can refer to the references cited for further reading and the discussion will limit itself to those plants listed from the questionnaire.

One of the most frequently mentioned plants was that of desert heliotrope, phacelia crenulata, a member of the family, hydrophyllaceae (water-leaf family), first described by Berry, et al. in 1962.[5] This is a commonly occurring weed, growing by desert washes, particularly abundant in the springtime in the Tucson area. This plant is about six to eight inches in length, with dark green, slightly hairy leaves, and with small blue to purple flowers that hang like bells on long stems that tend to curve. The cutaneous findings are similar to poison ivy, with linear papules and vesicles on exposed limbs.

Coast *fiddleneck*, amsinckia intermedia,[6] in the borage family, was also found to cause a severely pruritic dermatitis of the lower legs in several members of two

unrelated families (Beeaff, personal observation). This occurred during the spring months and could easily have been confused with poison ivy or desert heliotrope. The plant grows quite ubiquitously in the Tucson area and is characterized by very bristly stems and stalks, with drooping, curved stems and yellow flowers, growing in excess of 12 inches in height.

The other plants mentioned that might be pertinent to Arizona: creosote (larrea trindentata), mesquite, artificial oranges, milkweed, ragweed, and philodendron were felt either by clinical or by history of exposure, to be unlikely to cause difficulty in distinguishing from poison ivy. Many plants were too generally described to be able to make any specific comments, for example, wildflowers or cactus.

Dr. Daniels, curator of the Arizona State University herbarium in Tempe, reminded me of several plants which could cause a potential dermatitis, namely, members of the spurge family (euphorbiaceae), whose general characteristics include stinging hairs which release a caustic resin called "euphorbin." The nettle family (urticaceae) are capable of injecting histamine and other irritating chemicals into the skin. There are other plants too numerous to mention that could also be capable of causing dermatitis, and again further reading is suggested from the bibliography.[6]

Conclusion

In conclusion, first, poison ivy is indeed common to Arizona, and most cases were probably acquired within the state. Second, there are two varieties of poison ivy in Arizona, specifically, T. rydbergii, a shrub common to northern Arizona, and T. radicans, a vine common to southern Arizona. Third, physicians in our state may be poorly informed on specific geographical locations of poison ivy in Arizona. Fourth, technically speaking, only poison ivy and not poison oak or sumac occurs in the state. Finally, there are several other plants capable of causing dermatitis and in some instances similar to poison ivy, namely, desert heliotrope and coast fiddleneck.

Acknowledgements

I would like to thank those dermatological colleagues who cooperated with the questionnaire and also the following individuals: Mr. Charles Kennedy of the Coronado National Forest Service; Mr. Harry Haynes of the Tucson Clinic; Mr. Greg Starr, Research Assistant, University of Arizona College of Agriculture; Mr. Neil Paulson, Coconino National Forest Service; Dr. Thomas Daniels, Curator, Arizona State University Herbarium; Mr. Ken Byford, Kaibab National Forest Service; Professor Donald Wommack, Northern Arizona University Forestry Department; Mr. Charles Denton, Springerville Ranger District.

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AM Gastroenterology

Percutaneous Endoscopic Gastrostomy:
New Management of a Difficult Problem

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Introduction

Tube gastrostomy is often indicated for patients an intact gastrointestinal tract requiring long-term n

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l support. Surgical placement has been utilized for des; however, in the past four years percutaneous scopic gastrostomy (PEG) has been devised as a perative means of providing access for enteral tion. This report will review the indications, compli- ns and technical aspects of this new procedure.

ition Delivery Systems

veral conventional alimentation delivery systems available for patients unable to consume nutrients cient to meet metabolic demands. These include ral venous hyperalimentation and enteral feeding ugh a nasogastric, nasoenteric, or enterostomy . Central venous hyperalimentation is the treatment noice for malnourished patients who lack gastroin- nal integrity. Unfortunately, nutritional supplemen- n by this means is expensive and usually requires agement by a specially trained maintenance team. ral venous catheter placement may be complicated neumothorax, arterial puncture and hemorrhage, eter embolus and sepsis. Enteral feeding has several nct advantages and should be considered for ents who have lost the ability to swallow and have an ct digestive tract. Enteral feeding is economical, con- ent, safe, generally well tolerated and serves to ntain the structural and functional integrity of the l bowel.[1] For short-term use, nasoenteric tube feed- s practical and efficacious. Chronic use, however, result in nasopharyngeal irritation, rhinitis, otitis, or vertent displacement into the tracheobronchial The fine bore polyethylene nasoenteric tubes may ire pump infusion of the feeding formula to avoid occlusion. These disadvantages can be avoided by rostomy tube feeding.

veral surgical techniques for gastric feeding tube ement have been described. Despite lengthy expe- ce, the range of complications associated with these cedures are not widely appreciated. Major compli- ons such as wound dehiscence and infection, aspira- pneumonia, peritonitis and hemorrhage may occur o to six percent of adult patients and eight percent of iatric patients.[2,3] Mortality rates range from 1.6% to [3] In addition, up to one quarter of surgically treated ents receive general anesthesia which may add to risk of the procedure.[2]

onsky and associates have devised a method of com- ed percutaneous and endoscopic gastrostomy tube ement which avoids many of the disadvantages asso- ed with the surgical approach.[4] The technique is -suited for patients with swallowing disorders of erse etiology who have an otherwise functional gas- ntestinal tract (Table 1). The procedure can be per- med at the patient's bedside or in the endoscopic e in 30 to 40 minutes after minimal intravenous seda- . Contraindications are few (Table 2). Gastroparesis ree gastroesophageal reflux with aspiration may be rcome by inserting a jejunal feeding catheter ough the gastrostomy.[5]

Table 1
Reported Indications for PEG

1. Neurologic/Neuromuscular Disease
 - Multiple Sclerosis[6]
 - Organic Brain Syndrome[7]
 - Pseudobulbar Paralysis[9]
 - Werdnig—Hoffman Paralysis[9]
 - Cerebral Vascular Infarct[10]
 - CNS or Brainstem Malignancy[10]
 - Encephalopathy[10]
 - Huntington's Chorea[10]
 - Dermatomyositis[10]
 - Parkinson's Disease[11]
2. Carcinoma
 - Head and Neck[10]
 - Esophageal (personal experience)
3. Miscellaneous/Catabolic States
 - Vasculitis[6]
 - Glycogen Storage Disease[7]
 - Respiratory Failure[9]
 - Cardiac Failure[9]
 - Facial Trauma[9]
 - Laryngotracheomalacia[9]
 - Renal Transplant Candidate[9]
 - Urea Cycle Deficiency[9]
 - Carcinomatosis[12]
4. Other Therapeutic Uses
 - Gastric Decompression[12]
 - Internalization of External Biliary Drainage[13]

Table 2
Contraindications for PEG

Absolute
- Nonvisualization of the transilluminated endoscopic light
- Gastrointestinal obstruction (unless for decompression)
- Proximal small bowel fistula
- Diseases of the anterior gastric wall
 - Inflammatory
 - Infectious
 - Neoplastic

Relative
- Marked ascites
- Morbid obesity
- Massive hepatomegaly
- Coagulopathy

PEG is accomplished by first performing diagnostic esophagogastroduodenoscopy. Conditions which may impede placement or proper function of the gastric feeding tube are excluded. The stomach is then fully insufflated and brought into direct apposition with the anterior abdominal wall. The percutaneous puncture site is selected by the transilluminated endoscopic light placed in the distal fundus. Using sterile technique, local anesthesia is administered at the point of maximum illumination. After a 5 mm stab incision is made, a No. 16 medicut catheter attached to a syringe is placed through

the abdomen and into the stomach. A 2-0 silk suture is fed through the catheter and grasped with an endoscopic snare. The catheter is then removed and the endoscope is withdrawn leaving the suture traversing the percutaneous puncture site and exiting orally. A mushroom tip gastrostomy tube, which may be constructed or purchased commercially (American Endoscopy Inc., Mentor, Ohio) (Figure 1) is tied to the oral suture. The percutaneous suture is then grasped firmly to pull the tube through the mouth into the stomach and through the puncture site. The endoscope is reinserted and under direct vision external traction is applied to the gastrostomy tube in an effort to seat the tip firmly against the gastric mucosa without excessive pressure. An external rubber dam is applied to prevent internal retraction. After 24 hours of uncomplicated gravity drainage, tube feedings are begun.



Figure 1
PEG components. A. Silk suture affixed to a 16F mushroom tip gastrostomy tube. B. No. 16 medicut catheter attached to a 2.5 ml syringe. C. External rubber dam.

Complications of PEG

PEG is a safe, efficacious and cost effective means of providing enteral nutrition. Complications are infrequent and no procedure related deaths have been reported. Major complications include gastro-colic fistula, intraperitoneal leak of gastric contents, wound infection and stomal enlargement and occur with a frequency of approximately 3%.[6] Hemorrhage related to the procedure has not been described and aspiration rarely occurs.[7] Minor complications (skin infection, tube extrusion, stomal leak, or pneumoperitoneum) are more numerous (7.7%) but usually are self-limiting. PEG can be safely performed on infants and children.[9]

Summary

Under appropriate conditions, enteral feeding is the preferred method of nutritional management. Nasoenteric tube feeding may be adequate for short-term use but a more permanent indwelling gastrostomy tube is favored when long-term nutritional support is planned. PEG has several advantages over the surgical appro and should be considered the procedure of choice

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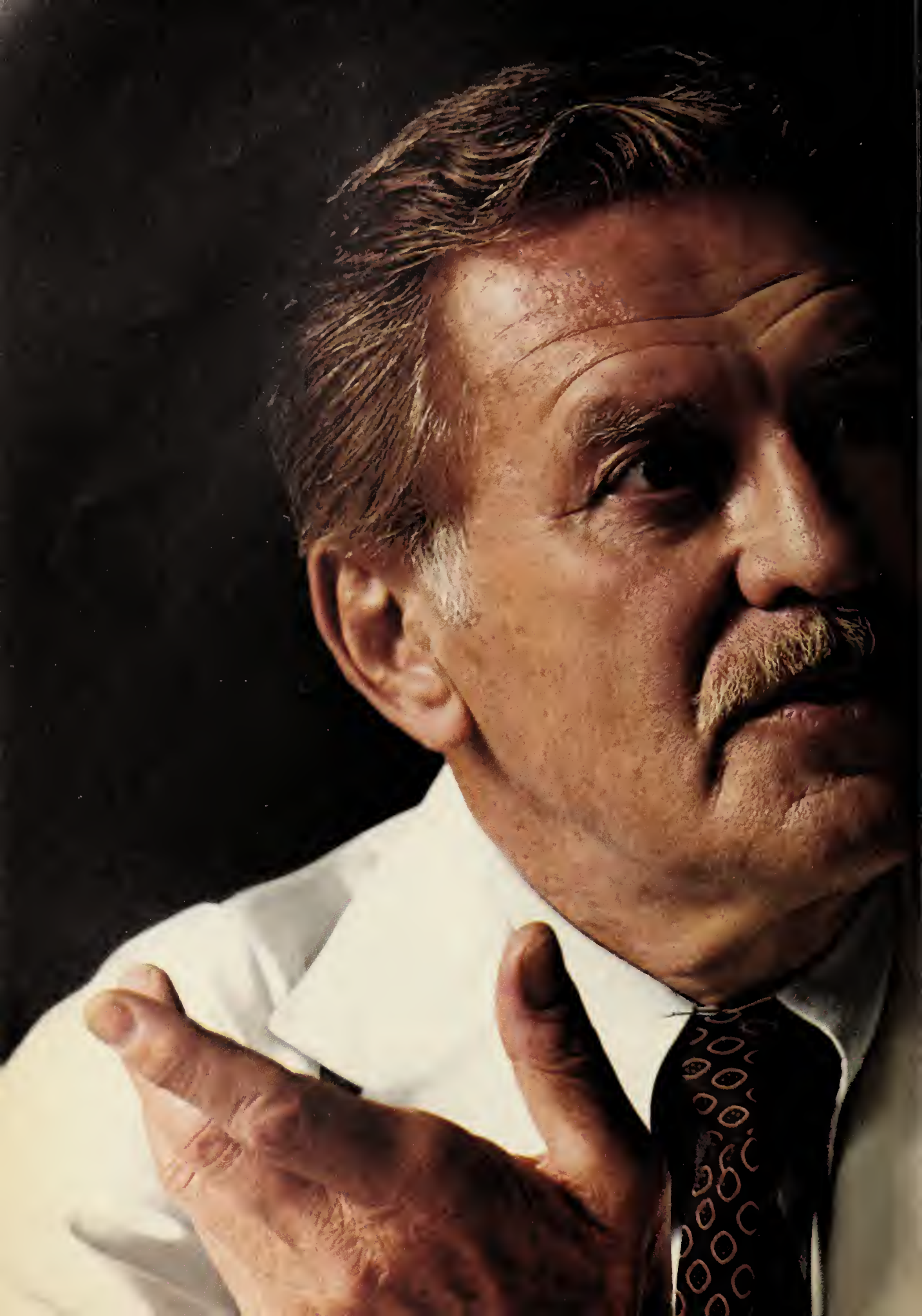
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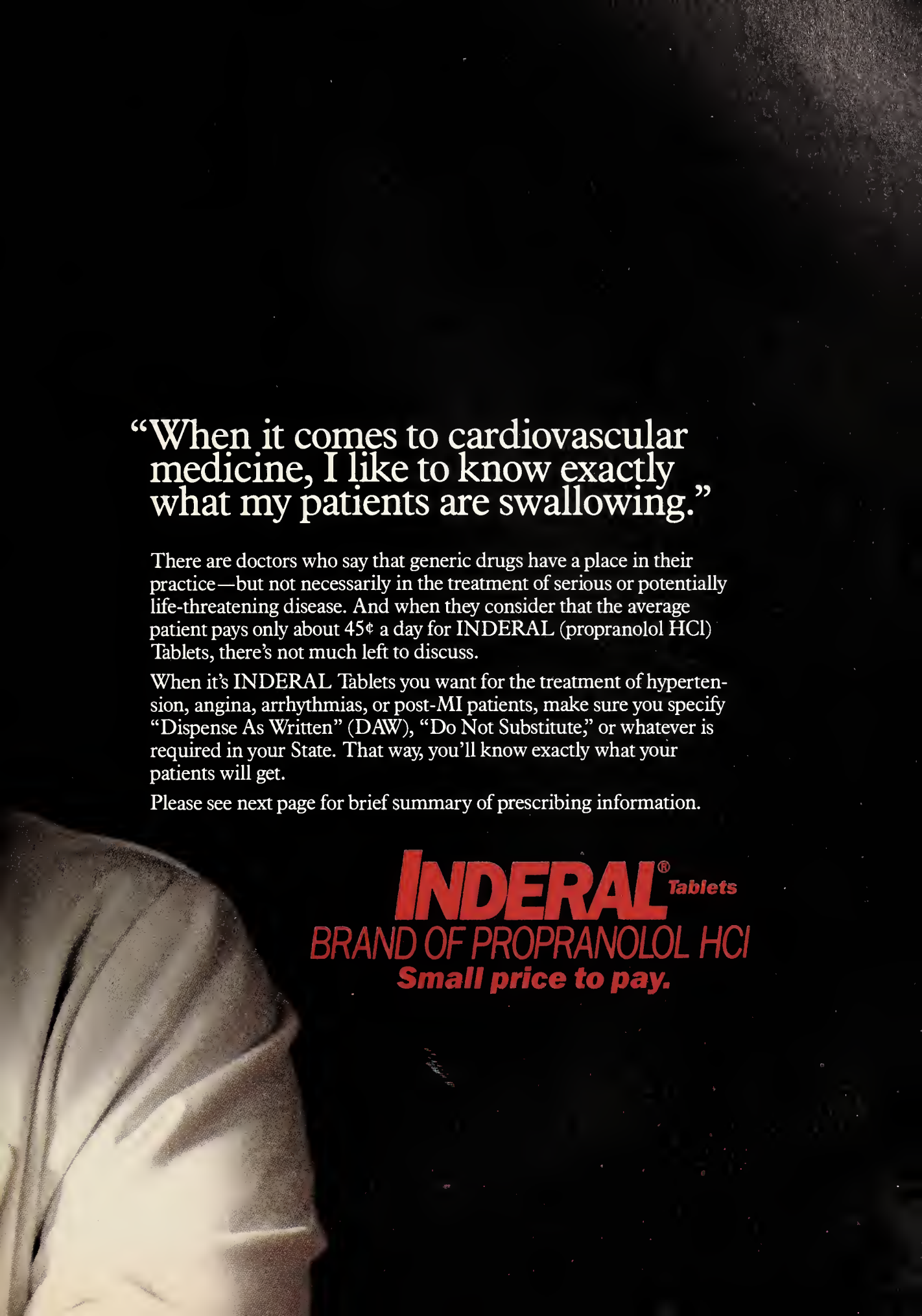
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WARNINGS

CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely; or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL, like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g., dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS

General. Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL (propranolol hydrochloride) may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart dis elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as r pine should be closely observed if INDERAL is administered. The added catecholamin blocking action may produce an excessive reduction of resting sympathetic nervous a which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or ort static hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility. Long-term studies in animals h been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studi both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of si cant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the age levels. Reproductive studies in animals did not show any impairment of fertility that attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryotoxic in studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL sho be used during pregnancy only if the potential benefit justifies the potential risk to the fe

Nursing Mothers. INDERAL is excreted in human milk. Caution should be exercised w INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Most adverse effects have been mild and transient and have rarely required the withdra therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hyp sion, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of Raynaud type.

Central Nervous System: Lightheadedness, mental depression manifested by insom lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, vi disturbances, hallucinations, an acute reversible syndrome characterized by disorienta for time and place, short-term memory loss, emotional lability, slightly clouded sensoriu and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhe constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with a and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia. LE-like reactions, psoriasiform rashes, dry eyes, male impo tence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactio involving the skin, serous membranes and conjunctivae reported for a beta blocker (pra lol) have not been associated with propranolol.

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Hematology/
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perience with Long-term dwelling Central Venous theters in Children

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e use of central silastic indwelling venous catheters
kman, Broviac) in children with severe chronic dis-
has increased markedly in the last several years.[1,2]
culty in achieving and maintaining venous access in
lren and adolescents, as well as adults, with chronic
ases is often cited by patients, parents, and nursing
onnel as one of the most agonizing aspects of
ment.

e Broviac catheter was initially introduced in 1973[3]
y for the administration of hyperalimentation and
se allowed the development of home hyperalimen-
n programs across the United States.[4,5] Within a
ively short period of time other uses were found for
central indwelling catheter and by 1975 the basic
eter was modified by Hickman to allow for blood
drawal as well as for infusion of various IV
lucts.[6,7]

e catheters differ from conventional catheters in
al respects: 1) they are intended for extended use,
ding outpatient maintenance; 2) the basic silastic
eter is reinforced on the external portion, usually
a protective covering of Teflon in order to reduce
kage and splitting; 3) the distal end of the catheter is
pped with a Luer-Lock connector, so secure IV con-
ons and heparin-lock capping can be maintained;
4) there is a Dacron cuff located on the subcutane-
ous portion of the catheter which serves to incite fibrous adhesions and, thus, to anchor the catheter in place.

In our population, the catheters were placed while the patients were under general anesthesia. Some centers, however, have inserted their catheters under local anesthetic. Two separate incisions are made—one at the site of insertion into the vessel and the other over the exit site. The catheter is measured over the chest wall and excess tubing removed from the proximal end of the catheter. Catheters are routed through the superior vena cava or the inferior vena cava to the entry of the right atrium. The distal portion of the catheter is then pulled through a long subcutaneous tunnel to the exit site and the Dacron sheath is positioned along the subcutaneous portion.

The major differences among the three catheters now in widespread use in pediatrics is their size. The pediatric Broviac has an internal lumen diameter of 0.12 mm, the Broviac lumen is 0.22 mm, and the Hickman, 0.32 mm. The external portion of the Hickman is not reinforced with Teflon but is a single thick-walled catheter. Theoretically, only the Hickman catheter is designed for blood withdrawal, but the standard Broviac has also been used for this purpose.

The catheters must be maintained with strict attention to aseptic procedures. They need to be flushed each day with a heparinized saline solution and patients and parents are taught catheter care procedures prior to discharge.

The advantages of the catheters are multiple. All IV fluids, antibiotics, and chemotherapeutic medications as well as blood products can be administered through the lines. Once in place, there is rarely a need for the patient to endure peripheral venipuncture for either IVs or phlebotomy (with the exception of the pediatric Broviac which does not allow for blood withdrawal).

At our institution catheters have been of great benefit in the treatment of children with oncologic disease or cystic fibrosis. Many of the chemotherapeutic regimens call for extremely toxic drugs which can be very harmful to veins and, when extravasated, to the surrounding tissues. With the right atrial catheters such extravasation is rare and, in our population, it has never occurred. The usefulness of a very effective antineoplastic drug, doxorubicin (Adriamycin), has been limited in the past secondary to its cardiotoxicity. Recent evidence, however, has indicated that continuous infusion into a central vein allows greater doses of doxorubicin to be given without demonstrable harm to the myocardium.[8]

Total hospitalization time of children with chronic disorders has also been decreased with the use of central indwelling catheters.[3,4] Two of our children have been on home hyperalimentation—one because of massive gastrointestinal varices secondary to cirrhosis caused by cystic fibrosis and the other because her abdominal neuroblastoma prevented her from getting adequate nutrition per os. Another oncology patient was able to receive his acyclovir for severe mucocutaneous herpes simplex infection at home—a treatment that, without his

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catheter, would have necessitated a prolonged hospital stay.

The psychologic benefit of the catheters cannot be overestimated. The anguish of multiple venipunctures, IV site changes, and chemotherapy-induced venous sclerosis can be avoided, and this has been cited by many parents to be the major benefit of the devices.

Methods

The records of all the pediatric patients who had Hickman or Broviac catheters inserted between 1979 and September 1983 were reviewed. Three Broviacs and 11 Hickmans were placed during that period of time. Since the time of data collection, four more catheters have been placed. Seven catheters were inserted into the IVC (median age of the patients, three and one-half years) and seven into the SVC (median age of the patients, 13 years).

Results

The most common diagnosis among our patients was an oncologic disorder, although patients with other chronic diseases were represented as well. (See Table 1.) The length of time from diagnosis to catheter placement ranged from less than one month to ten years (median, five months).

The catheters were used for administration of IV fluids in all patients and for phlebotomy in all with the exception of one who had a pediatric Broviac.

As of the time of data collection, the median length of time the lines were in place was 120+ days, with a range from 16 to 324 days. Six of the 14 lines (43%) are still in place. Four patients died with their catheters in (29%) and one patient had her catheter removed a end of her high-dose Adriamycin therapy. Three c ters were pulled during septic episodes (21%), an catheter was replaced secondary to occlusion.

There were a total of seven septic episodes v occurred in five patients while their catheters we place. The pathogens isolated are shown in Table 1. of the septic episodes were treated with antib alone (57%) but three resulted in catheter rer (43%). (See Table 2.) There were two patients wh two septic episodes each. The initial episodes treated successfully with antibiotics, but wher patients presented again with bacteremia, the cath were removed. The leukocyte count in both patient $> 10{,}000$ cells/mm^3 at the time of catheter removal third septic episode that resulted in catheter ren occurred in a 13-year-old who was receiving her ch therapy in Mexico. Her peripheral and line cul grew both *Candida* and *Pseudomonas* and the lin removed with subsequent clearing of bacteremia fungemia. Her WBC was $> 5{,}000$ cells/mm^3 with granulocytes at the time of this episode.

The remaining two septic episodes were treated cessfully with antibiotics. In both patients, the WBC $< 2{,}000$ cells/mm^3 and they were profoundly ill. patient subsequently died with his catheter in place the second patient is doing well and has had no fu septic episodes in the 249+ days the catheter has be place.

Table 1

PT	Age	Diagnosis	TFDTCP* (Month)	Days in Place	Catheter Type	Sepsis	Treatment
1	3	ALL	1	51+	H	—	
2	3	ALL	1	51+	H	—	
3	6 1/2	Evan's	29	107	B	*Klebsiella* *Klebsiella*	PCN Removal
4	7	ALL	16	105	H	*Strep.*	PCN
5	11 1/2	Cystic Fibrosis	122	290+	H	—	
6	2 1/2	Cystic Fibrosis	29	116	B	*E. cloacae* Pseudomonas	Tobra Removal
7	14	B cell ALL	5	16	H	—	
8	13	Sarcoma	2	245	H	Candida Pseudomonas	Removal
9	3 1/2	AML	25	249+	H	*K. pneum.*	Cephalothin Tobra
10	13	AML	<1	240+	H	—	
11	2 1/2	Sarcoma	<1	210+	H	—	
12	20	Sarcoma	3	103	H	—	
13	4	Neuroblastoma	<1	292	B		
14	15 1/2	Osteogenic Sarcoma	18	324	H	—	

*Time from diagnosis to catheter placement

Table 2

	Total	No. of Infections	No. Resolved With Antibiotics	No. of Catheters Removed	Other
Hickman	11	3	2	1	0
Broviac	3	4	2	2	1
Total	14	7	4	3	1

ther reported complications such as hemorrhage, skin infections at the exit site, venous thrombosis, eter breakage, catheter displacement or air embo- did not occur in our pediatric population.

ie median length of time that all catheters were in e was 120+ days, as compared to 116 days for those oved for sepsis. The total number of days the cathe- were in place was 2,399. There were seven septic odes in this period of time, resulting in the average 29 septic episodes per 100 catheter use days, which is parable to other published reports.[10]

ussion

though the gross figure of seven septic episodes in ne placements seems excessive, one must put the in perspective. Our patient population is at high risk pontaneous septic episodes, even without a foreign y in place. A recent report comparing the risk of is with routine central venous catheters versus that Hickman catheters revealed no increased risk with Hickmans.[11]

hile some reports mention neutropenia as a major disposing factor leading to catheter-related sepsis, ers do not and our experience with catheter-related is at the University of Arizona has not borne out this mption. The three septic episodes that resulted in eter removal occurred in patients with leukocyte nts > 5,000 cells/mm^3. Strict aseptic methods when ng for the catheter must be adhered to. When moti- on is lacking or the environmental circumstances vent it, catheter sepsis is more common.

fty percent of our patients had their catheters rted via the inferior vena cava by way of the saphen- vein. The median age of children with IVC catheters ten years less than that of children with SVC cathe- Four of our five patients with septic episodes had -routed catheters, and three of these four were n years of age or younger. Our sample population is small to make any conclusions about the increased of sepsis with IVC versus SVC catheter placement, as and environmental conditions also confound the .

hile older reports advocate prompt removal of cath- s when patients have documented sepsis[1] more nt authors have not found catheter removal to be riably necessary.[2,10-12] In our population, four of the n septic episodes resolved with antibiotics alone. In remaining three episodes, the decision was made to ove the catheter, even before an adequate trial of biotics. The latter three patients were not very debil- itated at the time and it was felt that the catheters could be replaced at a later time if the need arose.

Some centers have instituted the practice in febrile patients with catheters of obtaining simultaneous cultures with colony counts from both peripheral and central sites. If the colony counts from the central site are much higher than those in the peripheral cultures, the likely source of the septic episodes is the catheter.[13] The presence of certain organisms such as *S. epidermidis* or JK bacteria also suggests the likelihood that the septic episode is directly related to the catheter. Even where the sepsis appears catheter related, however, we would still favor an attempt to treat the patient with antibiotics and, hopefully, obviate the need to remove the catheter.

Other institutions have reported a marked drop in the incidence of catheter related sepsis when a strict catheter protocol and/or a catheter care team were instituted.[3,7,11] Until very recently, we have not had a well-developed catheter protocol and many of the nurses and housestaff were unfamiliar and uncomfortable with catheter care. This, in turn, led to some parent and patient confusion regarding care of the devices. On the basis of our experience, we believe that a strict catheter care protocol should be developed and adhered to by all involved in catheter care.

At other institutions a catheter care nurse who is fully trained in and comfortable with all aspects of catheter care and repair is available to all new catheter patients and is also available to families and health care personnel when they are confronted with a catheter-related problem.

The most recent modification of the basic catheter is the addition of a subcutaneous reservoir, which obviates the need for an external port.[14] Preliminary experience with this device has shown a decreased incidence of sepsis, but further experience with the catheters is necessary before definite conclusions can be drawn about their lower septic risk.

As mentioned earlier, one of the great benefits of these catheters is their use in the outpatient setting. Home hyperalimentation and IV hydration have been made possible. Families who choose to keep the children at home as death comes closer have found them invaluable, as IV analgesics and fluids can be given, thus easing the excruciating pain that some of these patients experience at the end of their lives.

The disadvantages of the daily flushing routine and the strict attention to asepsis are considered minor by most families when compared to the advantages.

Conclusion

Indwelling central silastic catheters have proven to be of great benefit in the long-term care of children and adults with chronic conditions. Because of their important role in overall patient care, they need to be maintained carefully. If a patient develops bacteremia and/or sepsis while the catheter is in place, a trial of antibiotic therapy is warranted before discontinuing the catheter and depriving the child of an extremely useful adjuvant to his or her overall therapy.

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Special Articles

How Your Practice Can Cope with Change©

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While so much is written these days about the fu of medical practice, many physicians seem to ign clear indications of change. This may be understand in view of their continued clinically and financ rewarding practice situations. After all, who want give up a good thing merely because of predictions things may change? "If it ain't broke, don't fix it," go popular saying.

That saying may be fine for a doctor who has wor hard to build a very good practice; he or she can pro bly ride out the era of change, though quite poss with declining income, for five to ten years. If, howe the doctor is between age 30 and 50 or cares enoug assure continued practice success indefinitely, changes in medical practice must be considered accommodated.

At a recent seminar, one speaker made the follov point: *"The best way to manage change is to anticip it."* We consider this statement to be absolutely esse advice for physicians who want their practice to sur indefinitely. Since changes are so obviously under and much more change will come, physicians sh stay closely attuned to what will probably happen.

General Conditions

With this background, here are our views on direction of medical practice. They are not comfor to doctors who are emotionally or financially commi to the way things have been, but we believe these di tions are virtually unalterable.

1. *Capacity to Pay*

Perhaps most significant of all, there is a clear squ ing of our national capacity to pay for the level of he care which the public has come to expect. The "ent

From: The Health Care Group, Bala Cynwyd, Pennsylvania. authors are the principal consultants and attorneys for the Health Group.

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t" thinking of the 1960's, when the nation seemed thy enough to afford all sorts of benefits, has shifted e 1980's — when our national wealth has essentially led off. Health care is buffeted within this much ter economic/sociologic fact, and one cannot me any solution allowing constant growth.

ius we have seen the beginnings of approaches gned to limit health care expenditures. DRGs and recently enacted freeze on physicians' Medicare are clear examples of such efforts, as is governmen- upport and encouragement of alternative delivery ems such as HMOs.

ho knows what will be the next, possibly much more nanent, proposed "solution" to the economic eeze? Perhaps capitation (payment per patient er than per procedure) will be imposed on doctors' ices. Perhaps uniform fee schedules will be imposed the federal government, and/or insurers and loyers, just as we are already encountering a onal schedule of lab fees.

'e consider one development nearly certain. The paid for "noncognitive procedures" will decrease ificantly, since virtually all segments of society seem gree that procedure fees are far too high. Open- rt surgery, intraocular lens implantations, cardiac eterization and fiberoptic procedures are examples llegedly "overpriced" services.

Governmental Pressures

/hile many people predict a continued growth in ernmental regulation of private medical practice, we it a bit differently. We instead expect government's rt will be to create the conditions that will make dicine less rewarding economically. DRGs, fee sche- es, HMO support and "all payers" limits on reimbur- ent levels are not so much regulation as they are ssures on practice economics.

egardless of what one calls it, however, government ne "big daddy," directly and indirectly influencing tors' incomes. There is little hope of effectively curb- that influence by court action, for physicians hardly e a constitutional right to their economic well-being. overnment can regulate banks, control natural gas es and impose laws on corporate take-overs all of ch are understood to be for the public's benefit, it also affect medical economics.

Increasing Supply

ke another arm of the pincer, these restrictions on *demand* for medical services come at a time of tre- ndous increase in the supply of those services. The nber of physicians in practice now is vastly higher n before and the predictions for 1990 project a still ner number. While doctors tended to dismiss the jections just a couple of years ago, almost all of them v see the continually increasing number of "col- gues" or "competitors" in their specialties.

he pincering effect means that conflict is virtually vitable at the physician level. It will probably result in virtual annihilation of some ancillary medical occu- ions such as physicians' assistants, respiratory therapy and the like. Doctors may be happy to do the work of those people in view of the available time and the need for income.

4. *Resulting Competition*

These various circumstances certainly show why competition among medical providers is becoming rampant. The pincers of a shrinking pot invaded by a growing number of fingers virtually preordain such competition no matter how noble the profession may be.

Much of the competition comes from so-called alternate providers. HMOs are developing virtually everywhere; physicians, in town after town, hold discussion sessions to consider how they should cope with actual or rumored HMO incursions. HMOs now have some 20,000,000 patients and are predicted to have 50,000,000 by 1993. That's a lot of patients chopped off private practices' rolls.

The convenience facilities ("urgicenters," and "immediate care centers," among other titles) are also doing quite well. We know of some practices badly affected by the expanded hours and aggressive marketing which nearby facilities feature. Those new facilities are providing a feature important to consumers these days: "convenience."

Hospitals are themselves delving more and more into medical practice even though it may be technically illegal. In their battle to survive, vertical integration of health care services becomes one of their possible salvations. And that integration injects hospitals right into the privately practicing physicians' turf.

But physicians' main competition comes from other physicians. Specialty-crossing is rampant as doctors seek to provide more services that might maintain their incomes (witness allergy and facial plastic surgery). Advertising is on the rapid rise and will almost inevitably continue to grow. And as "premier groups" contract for bulk patient care (discussed later), the patients gained are lost by other privately practicing doctors.

5. *Antitrust Law — The Big Leagues*

A prime example of inter-doctor competition and turbulence is baring itself these days. Medicine has entered the business world enough to be the hot topic in antitrust law.

Medical staff admission and privileges are vital issues for doctors on both sides, both the "ins" and those who seek to be "in." There are a number of cases which are widely known to lawyers and physicians. These cases involve millions of dollars in legal fees as well as untold potential liability if they are ultimately decided in favor of the plaintiffs involved.

Even though hospitals are co-defendants in these various lawsuits, physicians may themselves be at risk. In fact, since their medical staffs may be held liable separately from their hospitals, it is becoming essential to legally separate and incorporate the staffs. Doctors can no longer hide behind their hospitals' skirts.

Antitrust law arises in nonhospital practice situations as well. For example, while we have participated in more group mergers than ever before, some of these joinders

touch the ill-defined, and still rather conjectural, antitrust rules as they might apply to health care. And yet antitrust suits are so expensive and, if lost, so economically devastating, that doctors cannot take chances. Physicians are in the "big leagues" of business when those laws are involved.

Our Prescriptions

What should the currently successful practicing physicians do given this rather bleak description? Except for those who elect to ride their practices out for five or ten years, probably with declining patient volume as they move to retirement, we believe doctors should emphasize our opening key statement: "The best way to manage change is to anticipate it."

The changed conditions offer opportunities as well as problems. In the airline and steel industries, some companies are suffering and even dropping out while others take advantage of the conditions. We see the same scenarios in medicine, for some practices are growing and prospering despite the conditions. They have adapted to the changed game while still giving the same high quality medical care.

Here are some of the major approaches and basic philosophies we believe are essential for such success.

a. *Business Planning*

Doctors tend to resist the idea that hardheaded business planning makes sense in their professional practices. It cannot, however, be disregarded and it cannot be done half-heartedly.

The first part of business planning is to identify the broad goals and how they fit into both present structure and projected financial resources. The goals cannot be all-encompassing, for we find it necessary these days to establish areas of preeminence, even if other areas must be abandoned. For example, internists may have to decide if they are to be primary care doctors or referral specialists; it is becoming harder to be in both camps and prosper in either one.

As to the finally agreed planning document, there must be a reasonable consensus among the practice's players. In a solo practice, at least the manager and key staff members should accept the goals, while all physicians-members of a group practice should be comfortable with the major directions. Those who are unwilling to accept and work within the business plan's broad goals should probably not stay with that doctor or group. Interestingly, business plan goals tend to be self-fulfilling to the extent that people's day-to-day actions reflect those goals.

Secondly, from the broadly stated plan should come *specific strategies* to be followed in order to achieve the goals. What steps should be taken — moving one's office, replacing certain personnel, promoting certain aspects of the practice or opening a satellite office? And on what timetable?

As an example of this second phase of business planning, we recently followed up on a survey we had performed for a larger group practice six months earlier. The managing partner reported that the group had identified six primary goals and then set out over *sixty* s cific actions to be taken. The likelihood of actu achieving their broadly stated purposes should be tinctly greater with that 60-item action plan in plac

b. *"Market Share"*

Given the competitive threats and the uncertain for the next few years, we are urging an emphasis "market share" — a practice's volume of patient measured against the total available volume. This is the time to lose patients, for we expect the next years to be tolerable mainly for those doctors who ha large market share.

The larger number of patients will enable a practic keep its income up as well as possible if the fees begi drop. Market share will certainly permit maximum p sible income if the system shifts over to a capitat (payment per patient) basis. And as we see doctors groups negotiating with hospitals, HMOs and dire with employers, a larger volume practice should tra late to greater negotiating strength.

Therefore, even if a physician must accept a lower on some current patient work, the lesser payments n be preferable to losing those patients — to los "market share." We have therefore generally favo participation in HMOs and PPOs as a means of hold onto patient volume rather than ceding the work others. We also encouraged participation in Medic unless the financial circumstances were too adve Those doctors who elected not to participate now f the risk of adverse publicity and a possible decrease patients.

c. *Marketing Emphasis*

Closely related to the "market share" point, the ent field of marketing has become a key element in on practice. Marketing is, however, a far broader term th mere public relations and advertising. It involves att tion to one's business from the other person's (the c sumer's) point of view.

One attribute of successful business corporation that they are "consumer driven." They focus on anti pating and selling what the consumer *wants and nee* rather than on selling what they (the sellers) want to s Most major new products and services originate t way. From identifying the potential buyer's preferen rather than seller's interests.

But how does being "consumer driven" apply to p sicians? As one example, we believe that health c consumers are in large part business employers, la unions, insurance companies and the government, individual patients. These organizations are purchas most of the health care which physicians provi through patients. The one thing these major purcha must have is a basically controllable and definable c structure consistent with quality service.

Unfortunately, physicians have notoriously resist adapting to this need, equating cost controls and f restraints with compromises on quality of care. The b ter approach would be to seek ways to assure the purchasers about their expense levels while maintain

al emphasis on quality. If this means that a doctor oup might have to accept less than full fee work in to serve a larger block of patients, that should be a step.

other example involves a demographic characteris- metimes called the "nocturnal market." Goods and es are increasingly being demanded outside the ional "9:00 to 5:00" hours. The banking industry ecognized this characteristic in a unique way, estab- g automated teller machines which make bank es available 24 hours a day, seven days a week. cians, however, are only now beginning to shift to ing and weekend office hours. Not being consumer n, private practitioners have preferred office hours uited their busy lives, and until recently they had able to call the tune.

Group Practice

fortunately, we do not see solo practice as the way pe with change over the long run. We have in fact icted that there will be significantly fewer solo and small group (two to five doctors) practices about ears from now.

e trend towards larger practices, both single and -specialty, is already apparent. Groups can better ate physician time to early mornings, late evenings, ends and holidays than can a solo. One physician y cannot be available all the time, but a ten-doctor o can easily provide convenience center hours.

e larger group can also spend more meaningful rs. It can afford to hire a high-salaried administrator an MBA degree to help steer it through complex act negotiations. It can purchase state-of-the-art cal equipment to keep it on the cutting edge of its alty. And it can maintain a large enough public ons/advertising budget to bring in additional nts, while solos spending small amounts may be le to dent the ad market.

e expect groups to jump in size from three to six or sizes up to 10 and 15 members over just the next ears. But all the practices in a service area cannot . In fact, the opportunities to establish the des- d advantages will probably arise just once in each alty in each community. Once a group has done so, will probably not be room for its competitors to .

Physician Leadership

e factor in practice management never changes. her solo practice or group (large or small), there be effective leadership at the physician level. Suc- emanates from a doctor-owner's ability to set the er tone for the entire practice; conversely, we often out that every failure or weakness can and should e fault of the practice's "CEO," its chief executive r, or the doctor in charge.

the sole practitioner, he or she must first identify ractice's characteristics and assure that everyone erned will conform to them. This CEO-physician create a consistent atmosphere so the lay staff will cording to the selected goals. Planning and strategy are useless if the doctor-leader cannot, or will not, cause all concerned to act consistently with the business plan.

We find that group practices, even if just two or three doctors, require a strong and capable leadership format to accomplish what is within reach. The most desirable structure is for a single "CEO," just as other businesses thrive or fail because of their leadership. In some practices, however, where no single physician-member fits the CEO slot, a different leadership model may be necessary. This will usually be a two or three-doctor "executive committee" specifically authorized to act as though those two or three people were, together, an individual-in-charge.

Businesses do not survive these days without good leadership, and medical practice is becoming more like other businesses. Doctors wishing to adapt to the changing health care scene need a leadership format — usually a "CEO," in order to cope.

Conclusion

As described, the circumstances for privately practicing physicians are less favorable than anytime in the past twenty years. The health care industry is not, however, alone in encountering new, rapidly changing problems. As in other business situations, these problems create opportunities as well as annoyances. Thus we see some doctors making their practices prosper within the parameters of quality patient care by being alert to the circumstances and applying modern management skills to take advantage of them.

These successful practices seem to live by a minor variation in our previously recited key sentence:

"The best way to manage in a changing environment is to anticipate and face head-on the change."

Challenges to Private Practice: The Deficit Reduction and the Civil Rights Acts of 1984

One Person's Opinion

Jane M. Orient, M.D., F.A.C.P.

Abstract

The Deficit Reduction Act extends the power of the government to regulate the private sector in an unprecedented way. A similar but less often recognized intrusion is proposed in the so-called Civil Rights Act of 1984. Several lawsuits have been filed, alleging that the Deficit Reduction Act violates the Fifth and Fourteenth Amendments to the United States Constitution. Private practitioners in medicine, as well as other professions, could be profoundly affected.

Key Words: Medicare; Health Care Delivery; Law, Constitutional; Regulation, Governmental.

"No bill of attainder or ex post facto law shall be passed." Article I, Section 9, United States Constitution.

"No person shall be deprived of life, liberty, or property, without due process of law." Amendent V, United States Constitution.

"Nor shall any State . . . deny to any person within its jurisdiction the equal protection of the laws." Amendent XIV, United States Constitution.

The Deficit Reduction Act of 1984 occurs in an appropriate year, for it mandates a qualitative increase in the power of the federal government.

Although there is no doubt that the central government has the legitimate authority to regulate that which it finances, and to reduce federal health care expenditures, this Act attempts to bridge the chasm between government-and privately-financed activities. Previously, the government did not claim the right to control services that it didn't pay for, except as they related to interstate commerce.

To encourage physicians to enter into a contractual relationship with the Medicare administration, those who elect not to participate face several disincentives: a fee freeze; monitoring of their fees (using patient informers); administrative sanctions against those believed to have increased their fees; and publication of a list of approved, participating doctors. These provisions apply whether or not a physician accepts payment from the government by taking assignment: all physicians who care for any patient aged 65 or more affected. Thus, even those who consciously elect n contract with the federal government are subjecte its regulations, in fact, even more stringent req ments than those who *do* accept direct governr financing.

Several lawsuits have been filed against the gov ment as a result of this law. The greatest attentior been focused on the suit brought by the American M ical Association in Indianapolis, which raises cons tional issues, but also claims that physicians did not sufficient information to decide whether or not pa pation was in their financial self-interest. The law c of course, affect physicians with established high less severely than those who have tried to keep their reasonable. However, the emphasis on physic financial well-being is somewhat inconsistent with constitutional complaint. If physicians believe the la be unjust and unconstitutional, but would be willir participate if they benefited thereby, their sincerity be questioned.

A small group of physicians in Georgia raised al $60,000 in voluntary contributions to file their own suit in Atlanta, with legal counsel of the Associatio American Physicians and Surgeons, strictly on cons tional grounds.

The Atlanta physicians contend that the De Reduction Act is a bill of attainder, for it singles persons because of membership in a certain group, automatically metes out punishment. To elect non ticipation is a wholly legal act. However, those who c are automatically subjected to price controls, inv blacklisting, and so forth.

At the Constitutional Convention, there was debate about prohibiting bills of attainder, becaus the notorious history of this abuse of power. King attainted half the baronial families in England, and them executed. In the ensuing outrage, the remai nobles were able to force him to sign the Magna C In the United States, acts recognized to be bil attainder have been universally struck down in courts.

The plaintiffs also contend that the Deficit Reduc Act violates the due process clause of the Fifth Am ment, regarding both the rights to liberty an property.

The act that initially established Medicare did presume to interfere with the right of physicians patients to contract with each other. Now, the De Reduction Act attempts to force doctors to con directly with Medicare, rather than with patients.

Within the constellation of natural rights, our fo ing fathers recognized freedom of contract. As has frequently established, for example in Prudential I rance Company versus Cheek, "freedom in the ma of contracts of personal employment, by which l and other services are exchanged for money and c forms of property, is an elementary part of the righ personal liberty. . . ."[1]

From: Medical Square, Suite 9, 1601 North Tucson Boulevard, Tucson, Arizona 85716.

ontracts have been repeatedly recognized as prop-
. In 1934, the Supreme Court stated in Lynch versus United States: "Valid contracts are property. . .pro-
ed by the Fifth Amendment."[1]

he right of the Congress to enact price controls, per
has been upheld. However, price controls have gen-
ly been instituted only in times of universally recog-
d national emergency, such as war or an oil crisis.
government also has the right to regulate rates set by
lic monopolies. Even in this circumstance, confisca-
rate setting is not allowed, and due process of law is
uired to prove that rates are equitable and not
trary.

o single out physicians who do not "participate" is
ably a violation of the right to equality under the
as guaranteed by the due process clause of the
rteenth Amendment.

n these grounds, the Atlanta physicians petitioned
court for injunctive relief. Their petition was denied,
the basis that the Minnesota Nursing Home rate
ng case, which froze rates that could be charged
to Medicaid and to non-Medicaid patients, had
ady established precedent. However, in that case,
nursing homes involved had signed a contract agree-
to Medicaid participation. The government has not
n shown to have the power to control the rates of
sing homes who have no such contract, in other
ds to regulate institutions that it does not finance.
ugh an injunction was not obtained, the case will still
heard on its merits, with a view to striking down the
icit Reduction Act, in so far as it amends Medicare.
lthough this Act is aimed primarily at physicians, the
lications are much broader. Potentially, any profes-
al in private practice, for example, lawyers and
ountants, could also be affected. Similarly, a law
ed at educational institutions, namely, the so-called
l Rights Act of 1984, may also be a wedge for intrusive
eral regulation of medical practice. Because this Act
s not specifically name physicians, the medical com-
nity may overlook it in their concern about the lesser
eat posed by the Deficit Reduction Act.

uriously, at the same time that the federal govern-
nt discriminates against physicians who don't sign a
tract, the Civil Rights Act has been introduced under
pretext of *preventing* discrimination. This bill passed
House of Representives by a huge margin, and was
eated in the Senate only by parliamentary maneuver-
It would amend the major civil rights statutes by
ining a "recipient" of federal aid as any entity that
eives financial assistance from the federal govern-
nt either directly or *through any person.*

he stimulus for this provision was the case of Grove
College versus Bell. Grove City College is a small
ate institution which has never been accused of dis-
nination. Following the lead of Hillsdale College, it
refused to accept federal aid, and claimed therefore
it was exempt from complying with onerous and
ensive federal procedures to *prove* that it is innocent
discrimination. The court declared that because cer-
tain students received federal aid (for example, veteran's benefits), the college could be subject to regulation. The court narrowly constructed this requirement to apply only to the "program or activity" involved, in this case the admissions and financial aid offices. The Congress wishes to require a broader construction: that federal financial assistance to students is indistinguishable from direct aid to an institution, and therefore brings the entire college under regulatory authority.[2]

The implications for medicine are obvious. Physicians caring for any patient who receives federal assistance could thereby be subjected to all the enforcement procedures of the civil rights bureaucracies, as could churches and business corporations. Indeed, proponents of this act believe that in a "discrimination-free" society, there can be no distinctions between public and private spheres.[2] In contrast to persons accused of crimes such as murder or grand larceny, all persons might be required to prove their *innocence* of "invidious discrimination," whatever that is defined to mean.

Of course, this requirement would undermine the stated intent of the Deficit Reduction Act — to decrease expenditures for medical care. Already the cost of meeting government regulations is responsible for twenty-five percent of the average hospital bill, according to a study by the Hospital Association of New York.[3] Clearly, the trend in federal legislation is toward control of practitioners (of medicine as well as other professions), not control of costs.

The Deficit Reduction Act, and less transparently the Civil Rights Act of 1984, are serious challenges to the private practice of medicine. Physicians may be defined as a public utility. Not only freedom in medical practice, but eventually the liberty and property of all are threatened.

Acknowledgements

I thank Mr. Kent Masterson Brown, Legal Counsel to the Association of American Physicians and Surgeons, for reviewing the manuscript.

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Medical History

Extracts from the Publications of the Arizona Medi Association (Continued)

John W. Kennedy, M.D.

This is the eleventh article in a series of historical abstracts from the publications of the Arizona Medical Association.

News Items of 1937

Southwestern Medicine was still the official organ of the Arizona Medical Association, the New Mexico Society, Southwestern Medical Association and the El Paso Texas Medical Society. The editor was M. P. Spearman, M.D., of El Paso, and J. D. Hamer, M.D. of Phoenix was the associate editor for Arizona. While the journal became more sophisticated and the articles more professional, it lost its flavor for the historian. There were few if any personal notes about physicians and their doings. The notes from the various county societies that Dr. Watkins and Dr. Browne so assiduously cultivated were practically gone and so it would continue.

There was a note of the meeting of the Phoenix St. Joseph's Hospital Staff, December 13, 1937, at which time Dr. O. W. Thoeny was elected President, P. T. Brown, M.D., Vice President, L. R. Kober, M.D., Secretary, and F. J. Malloy, M.D., N. A. Ross, M.D., and J. W. Pennington, M.D., members of the Executive Committee. They reported on routine procedures that would be followed in the diagnosis and treatment of pneumonia. This was the time at which specific serum for a certain number of the various pneumococci had been developed and it was noted that this was not receiving the proper attention. They noted that types 1 and 2 serum were very effective, and in types 7, 8, 9 and 14 it was thought to be so. They stated that the reason for slow acceptance of specific serum therapy could be gathered into the following headings.

1. The lingering of the dictum that the disease is self-limited.
2. Hesitation on the part of the general practitioner to employ serum intravenously.
3. The difficulty and high cost of obtaining serum.
4. Lack of facilities for the identification and typing of the pneumococci.
5. Failure on the part of the health authorities to recognize the communicable character of pneumonias and to urge appropriations for the free distribution of anti-pneumococcus serum.

Dr. Kober reported that while two laboratories in Phoenix were equipped to type the pneumococcus, the actual use of these facilities are surprisingly low. He stated, "I can find only thirty-three instances of the determination of specific pneumococci type out of five hundred and fifty-seven cases of pneumonia treated in this hospital during 1936-1937. Nineteen of these were given specific serum." Dr. Kober also reported that the mortality of lobar pneumonia in 1936-1937 was thirty-two percent and bronchopneumonia forty percent. It is difficult for us now to relate to these figures with so many specific and less cumbersome methods of the treatment of the various pneumonias with antibiotics.

News Items of 1938

Dr. E. W. Phillips of Phoenix wrote on "Tuberculosis Control, the Urgent Duty of Arizona Physicians." He referred to the "Buck report" and stated "organized medicine" in Arizona owes it to itself, before the facts have become too much obscured by time, to take that report apart, to show by what means it was procured, upon what data it was based, and how those data were manipulated to justify its amazing conclusions. The high spot of this statistical masterpiece was the finding that nearly half of the number of those dying with tuberculosis in Arizona contracted their disease in Arizona." He went on to say that there is "probably not a practicing physician in the state who does not know from his own experience and observation that this estimate is grossly inaccurate." Nonetheless, this was substantiated in subsequent years, much to the discomfort of not only the practicing physicians in Arizona, but the health authorities. A survey done in the fifties came up with the same statistics. The native Arizonans were dying faster with the disease than the imported cases. This myth that only newcomers had tuberculosis persisted for a long time. Nonetheless, Dr. Phillips did make some pertinent recommendations about the control of tuberculosis. The need of registration of tuberculosis as a communicable disease was not done at that time, and the vital statistics reported in death certificates were very inaccurate and various other tuberculosis control measures were very sketchy in the state at that time. Dr. Phillips will be remembered as at one time, the medical director of St. Luke's Home, a tuberculosis sanatorium in the early days, now a general hospital. He was also astute enough to pick up the first case, or rather to diagnose the first case of coccidiodomycosis here in the valley.

Artificial fever, a critical review by J. Mott Rawlins, M.D., of El Paso, gives a historical background of the use of artificial fever therapy which came into its own in the thirties. In 1918 Juare had introduced the use of malarial fever i treatment of progressive syphilitic di of the central nervous system astounding results.

In 1935 F. Hartman of Detroit, usin Kettering hypertherm in a five-hou sion with temperature ranging from to 107°, had done the best physiolc investigation showing that there v distinct lessening of the oxygen sa tion of the arterial blood, which is a at these temperatures. By using methods they were able to secure only the Kettering hypertherm but o to show that high fever was a caus factor in remissions of neurosyphil acute and chronic gonorrhea and g rheal arthritis. (I see that hyperthe has now been re-introduced in the t ment of some of the neoplastic dise As a house officer in 1934 in a ho where a Kettering hypertherm was ir it was noted that a patient with Hod disease had a remission after treat with this form of fever therapy. I an sure this was ever followed up a time.)

An early form of continuing me education was begun under the dire of the State Medical Society. The con tee on child and maternal health in junction with the Arizona Board of H held postgraduate courses in obst and gynecology during the month of ruary. The committee in charge cons of Drs. F. C. Jordan, Phoenix, Chai and members Preston T. Brown, Pho C. V. Barley, Tucson, C. E. Yount, Pre and George Thorngate, Phoenix. T had been a previous notice that a from the federal government ena them to do this.

The annual meeting of the State As ation was to be held in Tucson with h quarters at the Santa Rita Hotel wit room rates $2.50 to $5.00 per room day.

About this time Harley Yandell, M of Phoenix did a humorous column c "The Mouth Gag." This is what he w about a prominent surgeon of Phoen that era. "They say that Billie Sweek he didn't mean to call a surgeon bathes in mercurochrome and sh protonsil a peckerwood. He m woodpecker. Also, he said he was that he lowered the American chipm like he did when he compared the little thing sitting on a fat little bo gnawing a nut to a surgeon — he nothing but skill in his fingers." He tinues on in a pleasant sort of way, to apart some of his other colleagues,

apparently all accepted it in good t. (I did not see any reference that he ever sued for malicious chatter.)

the April issue of *Southwestern licine*, Dr. Leslie R. Kober further orted on the progress in the treatment neumonia at St. Joseph's Hospital. He ed with some pleasure there was more ng of the disease and treatment with ific serum, and there had been a pro- sive fall in the mortality rate from y-six percent in 1936 to eighteen per- in the three months which he orted in 1938.

. C. Badger, M.D., of Hobbs, New ico reported on dental fluorosis in County, New Mexico. Noting that the report of this condition was made by r in 1901, but its cause was not found l McKay in 1916, proved it was a water he disease which was later proved by Oakley, Idaho experiment. This riment demonstrated that mottled mel could be prevented by change in r supply. Dr. Trendley Dean of the Public Health Service gave the first plete review of this in 1936, noting dental fluorosis is world wide, and in United States there were at least three dred thirty-five endemic areas in nty-five States. The most severely cted state was Texas, but others were rely affected, including Colorado, th Dakota, Arizona, Virginia, North olina and South Carolina. (As we all w, this led to the purposeful addition luorine in small amounts to city water plies to help control dental problems has been a bone of contention all of se years by some of our lay friends.)

Briefly Noted

ugo L. Cozzi, M.D., Phoenix, has been ned medical director of Phoenix nelback Hospital.

rs. David Cherney, Douglas Kelly, and **astian Ruggeri**, Phoenix, and **Ronald traub**, Mesa, were inducted as fellows he American Academy of Orthopae- Surgeons at the 32nd annual meeting hat organization in Las Vegas, Nevada.

hilip E. Dew, M.D., Tucson, has been cted to the Board of Trustees of the erican Group Practice Association. mbers are selected from among group ctice medical organizations across the ntry. Dr. Dew is a member of the Pedi- cs Department of Thomas-Davis Med- Centers and a former president of zona Medical Association.

nuel M. Guerrero, III, M.D., Casa ande, was named president-elect of American College of Emergency Room Physicians, Arizona Chapter, during the organization's annual meeting recently. Dr. Guerrero is serving his second term as chief of the medical staff at Casa Grande Regional Medical Center where he is director of the hospital's emergency department.

Bruce A. Mallin, M.D., Phoenix, was named 1984 Physician of the Year at the Phoenix Memorial Hospital's annual medical staff meeting. Dr. Mallin is chief of surgery, a member of the hospital board, and a longtime member of the hospital's foundation board of directors.

Merle S. Scherr, M.D., Scottsdale, has been selected as one of six recipients of the 1984/85 Distinguished Clinician Award by the American Association for Clinical Immunology and Allergy, an international organization of allergy specialists. This award honors clinicians who have distinguished themselves in the practice of allergy/clinical immunology as well as in their efforts to advance the specialty of allergy with their peers in other sectors of medicine and with the public.

Robert Paul Tully, M.D., Tempe, has been certified as a Diplomate in Internal Medicine.

The Arizona Medical Association welcomes the following new members.

Active Members
Pima

Ronald A. Berstein, M.D.
Neurological Surgery
1701 West St. Mary's Road, Tucson
Medical College of Wisconsin - 1974

Andrzej M. Fryczkowski, M.D.
Ophthalmology
University of Arizona
Health Sciences Center, Tucson
Akademia Medyczna (Poland) - 1962

Allan R. Hartsough, M.D.
Obstetrics and Gynecology
2800 East Ajo Way, Tucson
Indiana University School
of Medicine - 1978

Arthur E. Kunz, Jr., M.D.
Emergency Medicine, Aerospace
Medicine and Occupational Medicine
P. O. Box 12650, Tucson
University of Cincinnati
College of Medicine - 1966

Michael J. Moore, M.D.
Radiology, Therapeutic Radiology
University of Arizona Health
Sciences Center, Tucson
University of Wisconsin
Medical School - 1970

Affiliate Members

James K.L. Choy, M.D.
Urology
12842 Ballad Drive, Sun City
Loyola University - 1937



Current Perspectives Goes to Tucson
Dr. Gordon Ewy, moderator, visits with Dr. Gene P. Fioretti, Geigy representative Bob Brown, and Drs. Robert M. Anderson and William Martin.

Library Talk

Survival in the Paper Jungle, or How to Read Medical Journals

Bertha R. Almagro

Medical journals are to physicians what soap operas are to television addicts! Just as soap operas deliver entertaining and ever-changing plots to a spellbound audience on a daily and/or weekly basis, medical journals deliver new, exciting, and timely information to an eager audience of physicians according to the periodicity patterns of each journal. Each new issue holds promise to a host of articles that will increase the reader's knowledge and contribute to his/her advancement.

Medical journals are perceived as the most valuable source of information for the ongoing education of physicians. Unlike television viewers who simply turn off a program when they do not wish to watch it any longer, physicians must continue to read if they wish to remain up-to-date in their chosen field. Furthermore, they must maintain a relentless pace to keep up with the vast outpouring of medical literature. There is definitely no lack of medical reading! State medical journals, county bulletins, societies' newsletters, professional society journals, and even throwaways, must be added to the extensive number of commercially published medical journals engulfing even those that would have none!

As more medical journals make their debut each year, selecting from among this plethora of publications becomes more crucial. The need to identify which articles to read in-depth, and which to merely scan or browse becomes a matter of survival in this paper jungle. A report published in 1975[1] showed that physicians spent an average of nearly two hours a week scanning and reading the publications they received, but I find this piece of statistical reporting dismally low. I tend to give more credit to another report that cites an average of 53 minutes a day,[2] although I still believe this figure to be inaccurate and in direct contradiction with the staggeringly high number of journals currently published. How else could these journals continue to subsist if not for a substantial number of subscribers?

The *need to read properly*, that is, the ability to understand the format of an article, analyze the process by which the study is done, recognize the high and low points of its content, and critique the results and interpretations, can assist the reader enormously in increasing his/her reading power, allowing for more time to cover the vast literary medical output.

Reading is performed at two levels: in-depth, for knowledge accrual; and scanning or browsing, for general awareness. In order to develop a technique that will allow the reader to discard those articles that do not appropriately cover the specific needs of the individual, the components of the article should be analyzed. Of particular value in recognizing the strength of an article is the thread running through the various subunits represented by the title, abstract, result, and conclusion. Flaws and inconsistencies can be detected following this plan, and the entire process takes very little time. A rough estimate of the time spent on each category allows two to three minutes to the abstract, between three to five minutes to the results, and two to five minutes for conclusions. If the reader wishes to scan for subheadings, another one to five minutes must be added, and if a quick scan of the text is made looking for any keywords or phrases that match the reader's profile, five additional minutes round out the whole effort.

Once the clarity and continuity of the information has been assessed, the reader can determine the time he/she wishes to spend on the in-depth reading of the article, or if considered not relevant, it can be dropped and a better prospect pursued. It is important to quickly learn to recognize those articles that offer nothing but parallel and repetitive information. Usually the data, analyses, surveys, etc., of these papers have been previously published, but enveloped by different wording, thus assuming a different guise.

A judicious selection of journals is essential to maximize the limited time available for reading. An effective approach could be followed by eliminating journals that are not included in the standard refereed category. Another source to identify worthwhile papers could be a decision to make use of abstracts publications, or to peruse the tables of contents to identify titles closely related to the specific areas of interest. *Current Contents* is an excellent source for this last suggestion, and can be easily termed "God's gift (via Eugene Garf to the busy professional." This pub tion covers over 1,000 of the world's important journals (medical t included), providing access to the ta of contents of the latest issues publis

All possible avenues should be pur in trying to narrow down the volumi literature available in a wide numb specialties. To this effect the reader examine a number of journals in his field of major interest to become fam with the type of article each one lishes. The style and coverage, as we the academic background of the au are valuable clues in helping the re develop a feeling for those journals w deserve respect and continued readin different tactic could be applied predetermining the type of paper might best suit the needs of the rea that is, selecting a full article, a stud case report, or a review article.

Reading must be done in a system regular and beneficial way; it should enjoyable and interesting, but above the reader must learn to judge wh worth reading and persevering w Unlike what is generally believed, re ing is not a passive act. A sort of unspo dialog takes place in which the rea may question some of the stateme made in the article. Once doubts created, more information will needed, leading to further reading or cussion with colleagues. As we can reading is very much a vital, ac function.

The medical profession, more than other, demands an attitude of contin reading as established concepts becc obsolete through new discoveries. Me cal journals are the lifeline to the r information, and learning how to r them effectively is the physician's lifel to survival.

From: University of Arizona Health Sciences Center Library, Tucson, Arizona 85724. Ms. Almagro is Assistant Librarian for Processing Services.

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prescribing, see complete prescribing information in SK&F CO. ure or *PDR*. The following is a brief summary.

RNING

s drug is not indicated for initial therapy of edema or hypertension. ema or hypertension requires therapy titrated to the individual. If this nbination represents the dosage so determined, its use may be re convenient in patient management. Treatment of hypertension edema is not static, but must be reevaluated as conditions in h patient warrant.

indications: Concomitant use with other potassium-sparing agents as spironolactone or amiloride. Further use in anuria, progressive or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum sium. Hypersensitivity to either component or other sulfonamide-d drugs.

ngs: Do not use potassium supplements, dietary or otherwise, unless alemia develops or dietary intake of potassium is markedly impaired. plementary potassium is needed, potassium tablets should not be Hyperkalemia can occur, and has been associated with cardiac irregu-s. It is more likely in the severely ill, with urine volume less than ter/day, the elderly and diabetics with suspected or confirmed renal iciency. Periodically, serum K^+ levels should be determined. If hyper-ia develops, substitute a thiazide alone, restrict K^+ intake. Asso-**widened QRS complex or arrhythmia requires prompt additional** by. Thiazides cross the placental barrier and appear in cord blood. n pregnancy requires weighing anticipated benefits against possible ds, including fetal or neonatal jaundice, thrombocytopenia, other se reactions seen in adults. Thiazides appear and triamterene may r in breast milk. If their use is essential, the patient should stop g. Adequate information on use in children is not available. Sensitivity ons may occur in patients with or without a history of allergy or hial asthma. Possible exacerbation or activation of systemic lupus matosus has been reported with thiazide diuretics.

lutions: The bioavailability of the hydrochlorothiazide component of ide' is about 50% of the bioavailability of the single entity. Theoreti-a patient transferred from the single entities of Dyrenium (triamterene, CO.) and hydrochlorothiazide may show an increase in blood pressure id retention. Similarly, it is also possible that the lesser hydro-thiazide bioavailability could lead to increased serum potassium levels. ver, extensive clinical experience with 'Dyazide' suggests that these tions have not been commonly observed in clinical practice. Do dic serum electrolyte determinations (particularly important in patients ing excessively or receiving parenteral fluids, and during concurrent with amphotericin B or corticosteroids or corticotropin [ACTH]). dic BUN and serum creatinine determinations should be made, cially in the elderly, diabetics or those with suspected or confirmed insufficiency. Cumulative effects of the drug may develop in patients impaired renal function. Thiazides should be used with caution in nts with impaired hepatic function. They can precipitate coma in nts with severe liver disease. Observe regularly for possible blood asias, liver damage, other idiosyncratic reactions. Blood dyscrasias been reported in patients receiving triamterene, and leukopenia, nbocytopenia, agranulocytosis, and aplastic and hemolytic anemia been reported with thiazides. Thiazides may cause manifestation of t diabetes mellitus. The effects of oral anticoagulants may be ased when used concurrently with hydrochlorothiazide; dosage adjust-s may be necessary. Clinically insignificant reductions in arterial nsiveness to norepinephrine have been reported. Thiazides have also shown to increase the paralyzing effect of nondepolarizing muscle ants such as tubocurarine. Triamterene is a weak folic acid antagonist. eriodic blood studies in cirrhotics with splenomegaly. Antihypertensive ts may be enhanced in post-sympathectomy patients. Use cautiously rgical patients. Triamterene has been found in renal stones in asso-on with the other usual calculus components. Therefore, 'Dyazide' id be used with caution in patients with histories of stone formation. w occurrences of acute renal failure have been reported in patients on zide' when treated with indomethacin. Therefore, caution is advised in nistering nonsteroidal anti-inflammatory agents with 'Dyazide'. The wing may occur: transient elevated BUN or creatinine or both, hyper-emia and glycosuria (diabetic insulin requirements may be altered), ruricemia and gout, digitalis intoxication (in hypokalemia), decreasing l reserve with possible metabolic acidosis. 'Dyazide' interferes with escent measurement of quinidine. Hypokalemia is uncommon with zide', but should it develop, corrective measures should be taken such otassium supplementation or increased dietary intake of potassium-foods. Corrective measures should be instituted cautiously and serum ssium levels determined. Discontinue corrective measures and zide' should laboratory values reveal elevated serum potassium. ride deficit may occur as well as dilutional hyponatremia. Concurrent with chlorpropamide may increase the risk of severe hyponatremia. m PBI levels may decrease without signs of thyroid disturbance. Cal-n excretion is decreased by thiazides. 'Dyazide' should be withdrawn re conducting tests for parathyroid function.

zides may add to or potentiate the action of other antihypertensive s.

etics reduce renal clearance of lithium and increase the risk of lithium city.

erse Reactions: Muscle cramps, weakness, dizziness, headache, dry th; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermat-ical conditions; nausea and vomiting, diarrhea, constipation, other trointestinal disturbances; postural hypotension (may be aggravated by hol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, rus, pancreatitis, xanthopsia and respiratory distress including pneu-itis and pulmonary edema, transient blurred vision, sialadenitis, and igo have occurred with thiazides alone. Triamterene has been found in l stones in association with other usual calculus components. Rare dents of acute interstitial nephritis have been reported. Impotence has n reported in a few patients on 'Dyazide', although a causal relationship not been established.

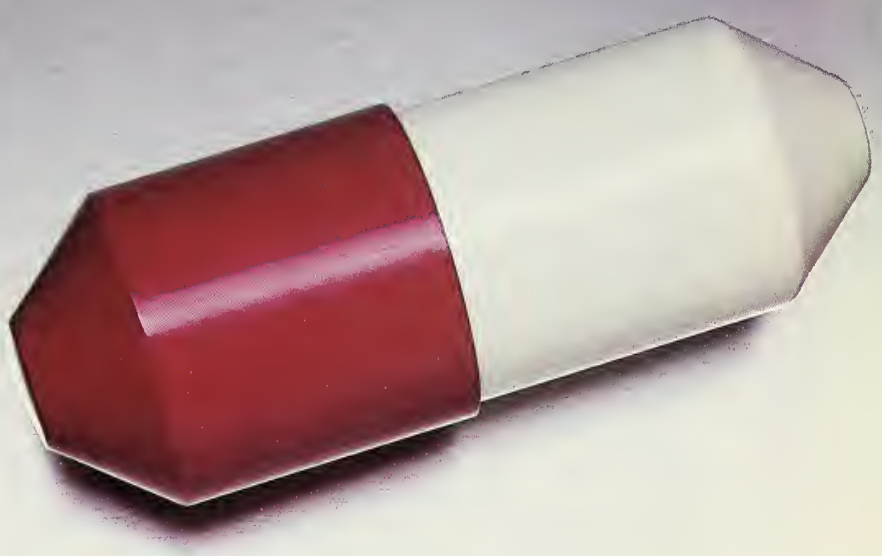
plied: 'Dyazide' is supplied as a red and white capsule, in bottles of 0 capsules; Single Unit Packages (unit-dose) of 100 (intended for itutional use only), in Patient-Pak™ unit-of-use bottles of 100.

-DZ:L39

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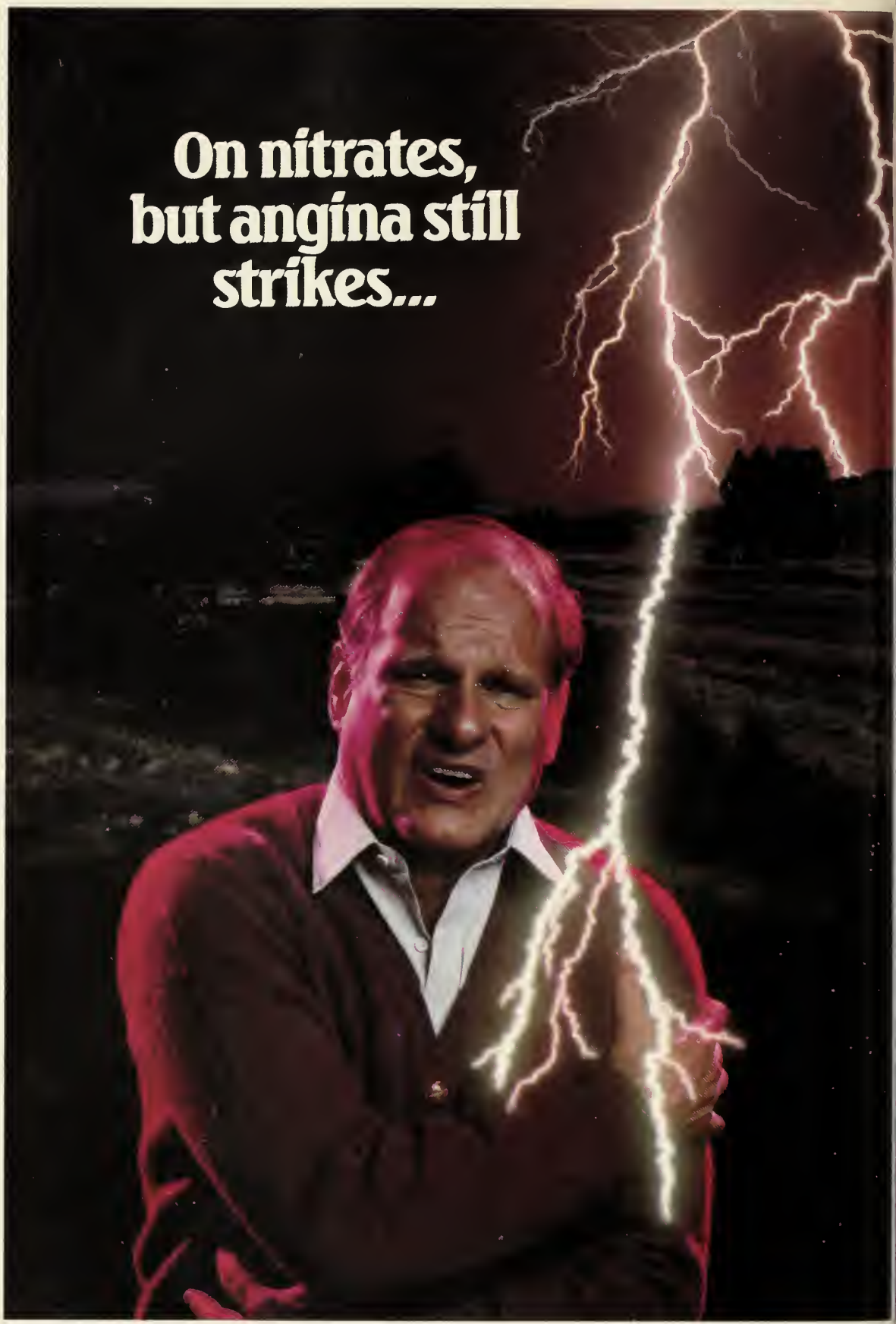


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Please see brief summary on following page.

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(verapamil HCl/Knoll)
80 mg and 120 mg

Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

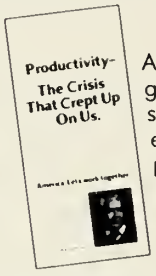
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University Hospital in Transition

Health professions education shares with all segments of the health care industry the requirement to look carefully at its spending with the goal of controlling the rate of increase, if not the actual expenditures. At the heart of the health professions education system is the teaching hospital. In Arizona, University Medical Center, the formerly state-owned University Hospital, is the keystone of clinical education for medical, nursing, pharmacy and many other students. The hospital, along with the rest of the industry, has experienced a rise in health care expenditures. Its revenue has grown from $33 million in 1980 to $64 million annually as of June 30, 1983.

In analyzing strategies to control expenditures, University Hospital found itself in an interesting situation. While control of spending might be possible, the reward for such control under the State of Arizona budgetary system simply resulted in the savings being passed back to the State in an "add up and subtract" budget format rather than accruing to the benefit of future operations and economics within University Hospital. This budget system also requires that losses pass through to the State requiring additional appropriation to meet deficits in order to meet the constitutional requirement for a balanced budget system. Hence, the mixed incentives in the system make it most difficult conceptually to develop a cost control program.

Compounding this management dilemma are rigid statewide policies which must be applied to any state-owned agency. These include limitations on personnel practices, contractual arrangements, indebtedness, competitive bidding, and conflict of interest and free enterprise statutes. While it is tempting to suggest that University Hospital could have remained a state-owned institution and still participated in the marketplace competitively, it in fact could not have survived financially under the rigid State rules. Indeed, were University Hospital to have attempted a "business as usual" approach, an analysis of the economic position projected increasing deficits from $5 million to $30 million between 1983 and 1988.

Of further importance is the peculiar position that teaching hospitals nationally find themselves. This position has been well described by John Colloton of the University of Iowa. Colloton states that some thirty percent (30%) of teaching hospital expenditures can be attributable to ill-defined products called societal contributions. These include graduate, undergraduate and continuing education, clinical research including technology assessment and drug testing, indigent care and charity, and severity of case mix contributions. These social responsibilities do not change and must receive support regardless of the economic situation and strategies.

In its analysis of this complex problem, the Legislature's Joint Legislative Budget Committee staff and lawmakers saw fit to recommend that the State convey to a nonprofit corporation the assets of University Hospital. At the same time, the lawmakers agreed to provide a predictable teaching appropriation to be annually defended. From the appropriation would come the funds to provide the societal contributions necessary to maintain and fulfill the responsibilities of a university teaching hospital.

In the Spring of 1984, the Legislature passed Senate Bill 392 which provides the authority for the Board of Regents to establish a nonprofit corporation. This corporation will rent land from the State and will receive the assets of University Hospital. The corporation has the authority to assume indebtedness but not to mortgage the assets. It is structured in a nonprofit manner so that it can function in the private sector on a par with other similar health industry providers. The statute allows joint venturing, contracting, subcontracting, partnerships and other means to maximize cost saving opportunities.

University Medical Center Corporation (UMCC) was established on August 17, 1984. On September 16, 1984, the Board of Regents adopted and approved a lease and conveyance agreement with UMCC which includes, as an attachment, an educational agreement. A nine member corporation board of directors is appointed annually by the Regents and this board is obliged to maintain the teaching and research mission of the hospital throughout the term of the agreed to fifty year lease of land. Failure to do so requires the return of the assets to the State. Through these documents the College of Medicine, entwined both physically and philosophically in the University Medical Center is protected so that it can maintain its teaching and research mission within the confines of the physical plant without jeopardy.

The State of Arizona is the fourth state (with Florida, Maryland and West Virginia) to convey its state-owned hospital to a nonprofit corporation. Other governmental bodies have similarly conveyed assets either to a university or its nonprofit corporation (Sacramento County in California for example) or to a non-

university related, not-for-profit, and in some cases for-profit, entity. So, too, Pima County sought to convey its health care facility to a non-county entity. The legislation which allowed University Hospital to be conveyed also permits the conveyance of the Pima County Hospital (Kino Community Hospital) to a not-for-profit corporation such as the University Medical Center Corporation in the year 1986 should it be considered desirable at that time. It is envisioned that the combined assets of University Medical Center and Kino Community Hospital would be maximally cost efficient and would enhance the combined health professions educational asset.

The various components of the Arizona Health Sciences Center, and in particular the College of Medicine, are excited by the challenge of this opportunity. We are fortunate to have had a farsighted Legislature and an innovative Board of Regents which were willing to follow the lead of the President and administrative staff of the University of Arizona. Health professions education must be in the forefront of all aspects of health care, must demonstrate a role model for its students reflecting its commitment, and must be a part of the social responsibility for cost efficient health care.

Louis J. Kettel, M.D.
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Arizona Medicine

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The minutes in this section have b condensed. A complete copy will sent to any member requesting th

LEGISLATIVE COMMITTEE

A meeting of the Legislative Commi of the Arizona Medical Association, was held on Saturday, February 16, 1 at 810 West Bethany Home Rc Phoenix.

H.B. 2009 Hospital Regulation *Nonsupport*
H.B. 2012 Campaign Contributions *N Position*
H.B. 2017 Radiation Products *Active Study*
H.B. 2019 Insurance; midwives; bene denial prohibited *Active Nonsupport*
H.B. 2022 Midwife Licenses *Nonsupp*
H.B. 2026 Hospitals; trauma centers; DHS designation *Active Study*
H.B. 2029 Medical treatment decisior act *General Support with Amendmer*
H.B. 2034 Health Care Costs *Active Study*
H.B. 2041 Doctors; tape recording; unprofessional conduct *Nonsupport*
H.B. 2051 Sexual assault; expenses of investigation *General Support*
H.B. 2077 Small nursing homes; pilot program *Active Study*
H.B. 2080 Standard Form Contracts (Darner) *General Support*
H.B. 2094 AHCCCS; Supplemental Appropriation *Active Study*
H.B. 2100 Controlled substances; update *No Position*
H.B. 2107 AHCCCS Enrollment *Gene Support*
H.B. 2113 Attorney fees; action again state *No Position*
H.B. 2116 Laboratories; rebate, fee sp prohibited *Nonsupport*
H.B. 2125 Parental consent for minor abortion *No Position*
H.B. 2189 Nursing care institutions; pulmonary tuberculosis *General Support*
H.B. 2209 Chiropractor; psychologist denial of benefits *Active Nonsupport*
H.B. 2211 Family planning services; appropriation *General Support*
H.B. 2217 Hospital admissions; precertification by payors *Active Nonsupport*
H.B. 2225 County attorney; medical examiner services *No Position*
H.B. 2228 Insurance settlements; approval of insured *Active Study*
H.B. 2229 Single bill for medical servi *Nonsupport*

2245 AHCCCS Coverage
support
2247 Outpatient behavorial health
cies; licensure *No Position*
2272 Legislative Smoking *General*
port
2281 Regulation of health
essions act *Active Support*
2288 Informed consent; abortion;
irements *No Position*
2291 Insurance; prohibition;
usion; previous tests *Nonsupport*
2303 Seat Belts *Active Support*
2305 Nursing Care Institutions *No*
tion
2319 Hospital Sale *Nonsupport*
2326 Right to Life *No Position*
R. 2011 Right to Life *No Position*
1046 Nonprofit hospital tax
mption denial *Nonsupport*
1051 Physician's assistants;
ificate suspension *General Support*
1052 BOMEX Exams *General*
port
1057 Nursing manpower and
cation committee *General Support*
1058 Nursing Board *Active Study*
1084 Insurance; nursing; benefit
ial prohibited *Nonsupport*
1085 Council for the hearing
paired *General Support*
1105 Campaign contributions and
enses *No Position*
1107 Truck cargo space; riding
hibited *General Support*
1161 Rural primary health care
ive Study
1165 Medical treatment decision
Active Study
1181 County responsibility for
lth services *Active Study*
1192 Removal of pituitary glands
ive Support
1193 Chiropractor; psychologist;
ial of benefits *Active Nonsupport*
1194 AHCCCS eligibility *Active*
dy
1204 Contingent fees; limitations
ive Support
1205 Contingent fee; punitive
mages; prohibition *Active Support*
1226 AHCCCS Extension *Active*
dy
1010 Telecommunication services
the deaf *No Position*
1235 Hospital costs (same as H.B.
4) *Active Study*
1236 Abortion *No Position*
1241 Ethics Committee *Active*
pport
1253 Doctor arrest report *General*
pport with an amendment
1270 Health Care Agreement *Active*
dy
1264 CME Repeal *No Position*
1279 Medical Malpractice (statute
limitations) *Active Support*
1293 Seat Belt Evidence *General*
pport
C.M. 1001 Right to Life *No Position*
C.M. 1002 Right to Life *No Position*
S.C.R. 1011 Right to Life *No Position*
Bills distributed at meeting:
H.B. 2367 Optometry Practice *Active Nonsupport*
H.B. 2388 Birth Defects Registry *Active Study*
H.B. 2393 Consumer Protection *Active Nonsupport*
H.B. 2398 Natural Health Care *Active Nonsupport*
H.B. 2413 State Building Smoking *General Support*
H.B. 2435 Punitive Damages *No Position*
H.B. 2442 Abortion *No Position*
H.B. 2443 Centers for mentally ill *No Position*
H.B. 2445 DWI Test Consent *Active Study*
H.B. 2462 Chiropractor and psychologist insurance *Active Nonsupport*
H.B. 2502 Behavior health professionals *Nonsupport*
H.B. 2526 Long-term health care *Active Study*
H.B. 2533 Health Insurance Policies *General Support*
S.B. 1327 AHCCCS Eligibility Affidavits *No Position*
S.B. 1329 Psychologist and chiropractor insurance *Active Nonsupport*
S.B. 1334 AHCCCS *General Support*
S.B. 1345 Seat belt use required *Active Support*
S.B. 1357 Personal Injury Awards *Active Support*
S.B. 1359 Super-pharmacist *Nonsupport*
S.B. 1370 Podiatrist Physician *Active Nonsupport*
S.B. 1378 Straight Chiropractor *No Position*
S.B. 1408 Animal Experimentation *Active Nonsupport*
H.B. 2211 Family Planning; appropriation *General Support*
H.B. 2034 Health care cost containment *Actively Support the recommendations of the Subcommittee on cost containment*
Drunk Driving Bills *General Support for all Drunk Driving Bills*
Child Abuse Fund *Support the Maternal and Child Health Care Committee's proposal on the Governor's proposed budget for child protection services.*
H.B. 2035 Child abuse donation *General Support*

The resignations of Thomas Taber, M.D., and Robert V. Stephens, M.D., from the Legislative Committee received.

Dr. Robles reminded all to attend the Legislative Reception to be held at ArMA on Monday, March 11, 1985 at 6:00 p.m.

H.B. 2402 Mayo Clinic Bill — At the time of this meeting, legal counsel was still researching all aspects of the bill so a final opinion was not available.

Edward Jacobson, representing Snell and Wilmer, explained that his firm had been retained by Mayo to act as legal counsel in Arizona. Under the circumstances he felt a definite conflict existed and has removed his law firm from any activity dealing with this legislation and its peripheral issues. Mr. Jacobson has notified Mayo and explained his reasoning to the Legislative Committee. Chic Older informed the Committee that the services of Roger Kaufman and Jay Rufner of the firm of Lewis and Roca had been retained as counsel on just this issue. It was moved and carried to appoint the ArMA Executive Committee as a subcommittee of the Legislative Committee to monitor this issue and determine an Arizona Medical Association position.

Mandatory Insurance — Several bills have been introduced which would mandate the inclusion of various practitioners in health insurance contracts. These include psychologists, chiropractors, nurses, etc. The Arizona Chamber of Commerce, Blue Cross, and other health insurance related organizations are supporting efforts to eliminate all mandates from the insurance statutes. The Legislative Committee examined, in detail, all aspects of a proposal such as this and agreed that to be effective this type of legislation would need to include physicians and physicians' services as well. After much discussion it was moved and carried that ArMA endorse the position of no mandatory insurance coverage for any practitioner or procedure and give support to H.B. 2533—Health Insurance Policies.

ENVIRONMENTAL HEALTH COMMITTEE

A meeting of the Environmental Health Committee of the Arizona Medical Association, Inc. was held on Wednesday, February 20, 1985, at 810 West Bethany Home Road, Phoenix.

H.B. 2538 — Arizona Clean Water Act: Mr. Anders showed the Committee charts identifying the groundwater areas in Phoenix which report contaminated wells. He said there are over 300 wells statewide that are contaminated. H.B. 2538 provides an appropriation of $1 million to the existing fund to help stop contamination. It was moved and carried to offer general support to H.B. 2538.

S. B. 1158 — Automobile-air pollution control: Mr. Anders explained what is being done in the field of automobile-air pollution control. He indicated three points were emphasized in this bill, 1) strong anti-tampering controls, 2) extension of current program to include 1972 automobiles and 3) appropriate $100,000 for a study of testing diesels. He stated this would still not bring Arizona into compliance with federal rules re pollution. It was the consensus of the Committee that the public should be made aware of this

as a public health program with ArMA's assistance. It was moved and carried to offer general support to S.B. 1158 and to refer the matter to the Arizona Medical Association's Public Relations Committee for their consideration as to dissemination to the public. As a further step, it was moved and carried that the Arizona Medical Association convey to the Governor of Arizona in writing the Association's strong concerns with what we feel are dangerously high levels of air pollution in urban areas of Arizona; that these levels present substantial health hazards to all persons and particularly those with cardio/pulmonary disease. We strongly endorse whatever actions are necessary to bring this problem under control and are anxious to support this effort. Finally, to inform the Governor of some specific laboratory findings articulated by ArMA physicians which demonstrate the severity of the current problem.

H. B. 2136 — Asbestos in Public Buildings: Discussion centered around the fact that there are many public buildings in Arizona, including the Coliseum, with asbestos and there is a great danger when you begin to remove it. Large resources are needed to effect a total cleanup. The Committee did not feel action was warranted at this time and it was moved and carried to table the issue.

No Smoking in Hospitals — Agendas mailed to each member contained a resolution by Richard D. Zonis, M.D., and Leland Fairbanks, M.D., concerning a smoke-free hospital environment. After much discussion, it was decided to utilize a large portion of Dr. Zonis' resolution with some changes. (A copy of the Resolution can be obtained from the ArMA office.) It was moved and carried to present the resolution introduced by the Environmental Health Committee to the House of Delegates at the April 1985 Meeting.

EXECUTIVE COMMITTEE

A meeting of the Executive Committee of the Arizona Medical Association, Inc. was held on Friday, February 22, 1985, at the Association's headquarters, Phoenix.

Dr. Novick, in reporting on the most recent activities of the Department of Health Services, focused mainly on the new screening test developed to pick up antibodies relating to AIDS; and because the test does represent a significant advance, it was agreed that Dr. Novick would prepare an article relating to this subject for dissemination in *Medical Memos* to ArMA members. Brief comments were received regarding the department's efforts to secure legislation adopting new laws pertaining to air and water pollution, which have received the support of ArMA's Environmental Health Committee.

The committee reviewed the Annual Reports of officers and committees received to date, and received a Status report from Mr. Robinson on CPR Fund solicitation and contributions.

The committee discussed legislative activities regarding CON and the possibility that, should it be continued, it would be applied to physicians' offices as well as hospitals. Mr. Older advised that it is currently ArMA's position that CON has run its course, that it has not proved to be cost effective, and that it should be allowed to expire. Although the committee took no formal action on the matter, it was the consensus that if CON exists it should apply to physicians also.

Dr. Baker reported on the meeting of the Task Force on Economics of Quality Care which has been scheduled for Friday, March 15, 1985, with Dr. Eli Ginzberg and members of the Legislature, for the purpose of informally discussing cost containment issues, and it was determined, in an effort to open discussions, that the six Task Force members who originally reviewed various segments of the Utah report, would be asked to briefly summarize their findings, which would then be critiqued by Dr. Ginzberg.

The committee reviewed a request for endorsement of the nomination of Lucy N. Sikorsky, M.D. to the Arizona Women's Hall of Fame, and it was moved and carried that the Arizona Medical Association endorse and support the nomination of Lucy N. Sikorsky, M.D. to the Arizona Women's Hall of Fame.

Dr. Baker commented on the resolutions which would be considered by the House of Delegates in April concerning the continuation of *Arizona Medicine* and provided for the committee's review a copy of *Michigan Medicine*, the Editor of which, Ms. Judith Marr, had spoken at the recent Leadership Conference in Chicago. It was moved and carried that Ms. Judith Marr, Editor of *Michigan Medicine*, be invited to attend the 1985 Annual Meeting of the House of Delegates to discuss the subject of conversion of a journal to a Socio-Economic magazine and that, additionally, Malcolm S. M. Watts, M.D., Editor of the *Western Journal of Medicine*, be invited to discuss the benefits of publishing in that type of format.

The committee reviewed a letter from Snell and Wilmer relating to insurance coverage for the Jail Advisory Committee that the Department of Corrections had requested ArMA to establish, and again discussed at great length the activities and liabilities of such a committee. It was moved and carried that the Arizona Medical Association considers it unwise, because of the potential liability, to advise the Department of Corrections on health related matters.

ARTICLES OF INCORPORATION AND BYLAWS COMMITTEE

A meeting of the Articles of Incorporation and Bylaws Committee of the ona Medical Association, Inc. was h Saturday, February 23, 1985, at the of the Association.

Following lengthy discussion deliberation, the committee app for forwarding to the House of Dele to be considered during the April ing, resolutions which would amen bylaws of the Association as to the fo ing subjects: Designation of AMA nate Delegates, Reduction of Si House of Delegates, and Reorganiz of ArMA Committees. Additional modified, for House consideratio resolution relating to the Creatic Office of Vice-Speaker.

SCIENTIFIC ASSEMBLY COMMIT

A meeting of the Scientific Asse Committee of the Arizona Medical ciation, Inc. was held at the Associat offices on Saturday, February 23, 19

The committee reviewed and disc the program format and additional ning for the April 25th Current Per tives, making some specific chang some of the topics and/or spea adding volunteers from the committ several of the discussant slots, with committee members assuming resp bility for either finalizing yet incom segments or contacting suggested p cians to act as discussants. It was ag that, since the program must be rea go to print by Wednesday, February each assignment once completed w be phoned in to Kathy Bailey at the A office in order that the deadline cou met.

Dr. Baker briefly overviewed the tent of and participants for the M 16th program, "Quality Care and Containment-Arizona: 1985-The P cian and the Legislator."

TASK FORCE ON ECONOMICS C QUALITY CARE OF THE GOVERNMENTAL SERVICES COMMITTEE

A meeting of the Task Force on nomics of Quality Care of the Gov mental Services Committee of Arizona Medical Association, Inc. held at the Association's offices on Sa day, March 2, 1985.

Following an introduction of gu and members, Dr. Meyer briefly o viewed the reason for establishmer the ArMA Task Force, i.e., to address attention of the Association and, thro its leadership, the community at l with regard to controlling the econo of health care by informed use of health care. Dr. Meyer discussed the Force's review of the Utah propo from which basic recommendations been formulated for the Associat which, when refined, would be sented to the Board of Directors for ac

ınd implementation. However, it ıred that the members of the Task should be informed as to what was done at the county level in similar ;, and thus, invitations had been ded for the presentations at this ng.

/ritten and oral report of the activi- f the Greater Phoenix Affordable h Care Foundation were received representatives of that organization, obert Stephens, Dr. Lanny Kope, and Jeanne Davis, outlining the process ı was being followed for obtaining a to carry out the intended programs, ndicating those concerns currently ; addressed as 1) alternative delivery ms, 2) consumer education/health ıotion, 3) decision support system, 4) s service capacity, 5) health benefit n, 6) low volume/high cost, 7) medi- ducation, and 8) the notch group. ie Dusenberry, Chairman of the on Program for Affordable Health, essed the group relating to the activi- of their data committee, education mittee, and committee on malprac- as well as their alternative reimburse- project. Ms. Dusenberry expressed ern about getting Tucson physicians ved and the hope that the Phoenix Tucson coalitions could work ther, sharing data and information, in npting to reach common goals. Fol- ng the departure of the guests, and ng an overview discussion of the rial presented, it was the consensus ne members that Jeanne Davis be nded an invitation to participate, as bserver and guest, in future meetings e Task Force.

. Baker spoke about the dinner ting which would be held on Friday, ch 15th, at the ArMA building involv- nembers of the Task Force, legislators Dr. Eli Ginzberg, as well as the "Cur- Perspectives" program scheduled Saturday, March 16th, on "Quality and Cost Containment-Arizona, —The Physician and the Legislator," extended invitations to representa- of the two guest organizations to nd. The committee reviewed the con- dation of the recommendations pre- sly formulated by various members noted changes, additions, etc., which uld be made prior to presenting them Dr. Ginzberg as a basis for a critique ch he would be requested to give dur- the March 15th meeting. In an effort most timely refine and finalize the ommendations, Dr. Meyer appointed Editorial Board, consisting of himself Drs. Baker and Ward, to meet during week of March 5th to make whatever sions they deemed appropriate, ch would then be sent to Dr. Ginzberg circulated to the committee mbers for their information.

FINANCE COMMITTEE

A meeting of the Finance Committee of the Arizona Medical Association, Inc. was held on Tuesday, March 5, 1985, at the Pima County Medical Society, 5199 East Farness, Tucson, Arizona.

As background for use in the discussion of the proposed 1986 Budget, the committee received and reviewed a schedule of revenues and expenditures for the previous 5-year period, dues increases which had been adopted by the Association since 1966, a listing of other states in which annual dues (1984) were $300 or more, and resolutions which would be presented during the 1985 Annual Meeting which might have an effect on ArMA finances.

Following a lengthy, page by page review of the draft proposed budget presented for the committee's consideration, it was agreed that revisions be made and ultimately, there be three proposals prepared, each assuming certain variables which would then be reviewed by Dr. Hirsch and Mr. Robinson prior to circulation to the committee.

Future Meetings

The following institutions and organizations have been accredited for their continuing medical education programs by the Arizona Medical Association and/or the Accreditation Council for Continuing Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital, Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Joseph's Hospital, Tucson
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

APRIL

Industrial Toxicology
April 25-27. Scottsdale Hilton Resort, Scottsdale, Arizona. Sponsor: The Central Arizona Regional Poison Management Center, St. Luke's Medical Center, Phoenix. Contact: Christine Campbell, Director, Department of Medical Meetings, St. Luke's Medical Center, 1800 E. Van Buren, Phoenix, Arizona 85006. (602) 251-8402. Approved for Category 1 CME credit and CEU applied for.

MAY

Fine Needle Aspiration
May 4-5, 1985. Westward Look Resort, Tucson, Arizona. Sponsored by Arizona Society of Pathologists and U of A. Contact: Bev Richter, (602) 246-8901.

JUNE

Pediatrics in the Red Rocks — 8th Annual Summer Pediatrics Conference
June 14-16, 1985. Poco Diablo Resort, Sedona, Arizona. Course will cover Immunology, Adolescent Medicine & Nephrology. Sponsor: University of Arizona Health Sciences Center, College of Medicine, Office of Continuing Medical Education and Outreach, Tucson. Contact: Lolly Dwan, Continuing Medical Education, University of Arizona College of Medicine, Tucson, Arizona 85724 — Call: (602) 626-6173. Approved for 11 1/2 AMA Category 1 credit hours.

MONTHLY OR WEEKLY

Shrine Medics Meeting
Second Tuesday of each month, Humana Hospital, Phoenix, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

Pediatric Grand Rounds
Tuesday 7:30-8:30 a.m. in Phoenix:
1st Tues.—Phoenix Children's Hospital.
2nd Tues.—Maricopa Medical Center.
3rd Tues.—Phoenix Children's Hospital.
4th Tues.—St. Joseph's Hospital.
Sponsor: Phoenix Hospitals Affiliated Pediatric Program. Contact Paul S. Bergeson, M.D., P.O. Box 2989, Phoenix, Arizona 85062. Approved for 1 hour per session Category 1 credit.

Review of Forensic Pathology Current Case, Special Topics
Thursday, weekly, 11:00 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H.

Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ 85008. Contact: Martin B. Kassell, M.D.
Inservice Training
1st Friday, 1:00-2:00 p.m., Room 5, Education Building.
Psychiatric Case Presentation
2nd Friday, 1:00-2:00 p.m. Room 5, Education Building.
Clinical Pathological Conference
3rd Friday, 1:00-2:00 p.m., Room 5, Education Building
Open Topic
4th Friday, 1:00-2:00 p.m., Room 5, Education Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.
Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.
Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.
Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.
Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.
Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.
Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.
Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed.D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.
Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.
CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.
Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.
Surgical Department Meeting
3rd Monday, 11:45 p.m.

Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.
Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.
Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.
Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. R
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rn
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713. Contact: Eric G. Ramsey, M.D., Approve for Category 1 credit.
Surgical Conference
Weekly, Monday 8:00 a.m., Contact: Eric G. Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m., Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m., Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 850
Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.

r Board
3rd Mondays, 12-1 p.m.,
cal Conference Rms.

MARICOPA MEDICAL CENTER

E. Roosevelt, Phoenix, AZ 85008.
act: Leonard Tamsky, M.D.
thesiology Morbidity & Mortality
erence
ly, Mondays, 2:45 p.m.
ery Burn Grand Rounds
ly 7:30 a.m.
cine Chest
3rd Monday, 12 Noon.
cine GI
& 4th Monday, 12 Noon.
cine Dermatology
Monday, 12 Noon.
t/Surgery
kly, Mondays, 1:30 p.m.
ulatory Pediatrics
kly, 2:45 p.m.
Problem Conference
kly, Tuesday, 7:30 a.m.
opedic Conference
kly, Tuesday, 7:30 a.m.,
a Cruz Room.
cine Neurology
3rd Tuesday, 12 Noon.
cine Renal
Tuesday, 12 Noon.
rgency Medicine
Tuesday, 12 Noon.
GYN—Tri-Hospital Perinatal Mortality
Tuesday, 12 Noon.
GYN—Departmental Grand Rounds
nd 2nd Tuesday, 12 Noon.
Endocrine Conference
Tuesday, 12 Noon.
sthesiology—General
kly, Tuesday, 2:45 p.m.
ew of GYN Pathology Slides
kly, Tuesday, 4:00 p.m.
atric Grand Rounds
Tuesday, 7:30 a.m.
ology Staff Inservice
kly, Wednesday, 6:45-7:50 a.m.
sthesiology Residents & CRNA's
ference
kly, Wednesday, 7:00 a.m.
Neonatal Conference
kly, Wednesday, 7:30 a.m.
gery
kly, Wednesday, 7:00 a.m.
gery Hand Conference
kly, Wednesday, 7:30 a.m.
chiatry Staff
Wednesday, 11:00 a.m.
chiatry General Conference
, 3rd, & 4th Wednesdays, 12 Noon.
dicine Cardiology
Wednesday, 12 Noon.
dicine Mortality
Wednesday, 12 Noon.
dicine Infectious Disease or Hematology
Wednesday, 12 Noon.
iatrics Renal/Endo Conference
Wednesday, 12:30 p.m.
iatrics Infectious Disease
Wednesday, 12:30 p.m.
esthesiology Staff Lecture
2nd & 4th Wednesday, 2:30 p.m.
gery Morbidity & Mortality Conference
2nd & 4th Wednesday, 3:30 p.m.
es/Surgery Joint Traum Conference
Wednesday, 3:30 p.m.

Surgery Urology Staff
3rd Thursday, 7:30 a.m.
Anesthesiology Journal Club
4th Thursday, 8:00 a.m.
Ambulatory Pediatrics
Weekly, Thursday, 8:00 a.m.
Surgery Burn Chart Rounds
1st, 2nd, & 3rd Thursdays, 8:00 a.m.
Burn Mortality Conference
4th Thursday, 8:00 a.m.
Medicine Problem Case Conference
1st Thursday, 12 Noon.
Medicine Rheumatology
2nd Thursday, 12 Noon.
Medicine Staff & House (Separate)
4th Thursday, 12 Noon.
OB/GYN Resident Conference
1st, 2nd & 3rd Thursday, 12 Noon.
Vascular Surgery Conference
1st, 2nd & 4th Thursday, 12:30 p.m.
Combined GI & Surgery Conference
3rd Thursday, 12:30 p.m.
Anesthesiology Chief Resident's Lecture
Weekly, Thursdays, 2:45 p.m.
Orthopedic Surgery Basic Sciences
Weekly, Thursdays, 5:30 p.m.
OB/Surgery Pathology
Weekly, Fridays, 7:30 a.m.
Orthopedic Surgery Fracture X-Ray Conference
Weekly, Fridays, 7:30 a.m.
Medicine Endocrinology
1st Friday, 12 Noon.
Medicine Infectious Disease
2nd Friday, 12 Noon.
Medicine/Radiology Conference
3rd Friday, 12 Noon.
Medicine Cardiology
4th Friday, 12 Noon.
OB/GYN Tumor Board
4th Friday, 12 Noon.
Surgery Tumor Board
1st, 2nd & 3rd Friday, 12 Noon.
GYN Endo Conference
1st & 3rd Friday, 12:30 p.m.
Pediatric Radiology Conference
1st & 2nd Friday, 12:30 p.m.
Pediatric Dermatology
3rd Friday, 12:30 p.m.
Pediatric Infectious Disease
4th Friday, 12:30 p.m.
Surgery Rehab Rounds
Weekly, Friday, 1:30 p.m.
Surgery Selected Readings
2nd & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201.
Contact: E. John Wickman, M.D.
Continuing Medical Education Programs
Tuesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015.
Contact: J. Burr Ross, M.D., Approved for Category 1 credit.
Clinical Conferences
1st, 2nd & 3rd Tuesdays, 12 noon,
5th Floor Auditorium.
CPC or Medical-Surgical Forum
4th Tuesday, 12 noon,
5th Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016.
Contact: Leland L. Fairbanks, M.D.,
Approved for Category 1 credit.
Clinical Staff Teaching Conference, Rm. A.
Weekly, Wednesday, 8:00-9:00 a.m.
Family Practice/Emergency Room Teaching Conference
Thursday, Weekly, 7:30-8:30 a.m.,
Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036.
Contact: George Scharf, M.D. Approved for Category 1 credit.
Monthly Medical Education Seminar
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
Clinical Conferences
Weekly, Tuesday, 12:30 p.m., Kiva Conference Rm.
Psychiatric Clinical Conference
2nd Friday, 11:30 a.m., B-Wing Conf. Rm.,
Contact: Medical Staff Secretary.
Tumor Board Conference
Weekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

7400 East Osborn, Scottsdale, AZ 85251.
Contact: Tom Disney, M.D., Approved for Category 1 credit.
Family Practice Conference
1st Monday, 12:30 p.m., Doctors' Lounge.
Emergency Medical Services Conference
2nd Monday, 12:30 p.m., Doctors' Lounge.
Neurology/Neurosurgery Conference
3rd Monday, 12:30 p.m., Doctors' Lounge.
CPC Conference
4th Monday, 12:30 p.m., Doctors' Lounge.
Pediatrics Conference
5th Monday, 12:30 p.m., Doctors' Lounge.
Pulmonary Conference
1st Tuesday, 12:30 p.m., Doctors' Lounge.
Cardiology Conference
2nd Tuesday, 12:30 p.m., Doctors' Lounge.
Surgery Conference
3rd Tuesday, 12:30 p.m., Doctors' Lounge.
Resident Grand Rounds
4th Tuesday, 12:30 p.m., Doctors' Lounge.
Medical Subspecialties
5th Tuesday, 12:30 p.m., Doctors' Lounge.
Uronephrology Conference
3rd Thursday, 12:30 p.m., Doctors' Lounge.
Tumor Conference
4th Thursday, 12:30 p.m., Doctors' Lounge.
GI/Med/Surg/Radiology Conference
2nd Friday, 12:30 p.m., Doctors' Lounge.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon,
Contact: M. Maximov, M.D.
Dermatology Conference
4th Monday, 5:00 p.m.,
Contact: R. Miller, M.D.

Endocrinology Conference
4th Monday, 12 Noon,
Contact: M. Parker, M.D.
Nephrology Conference
2nd Monday, 12 Noon,
Contact: Stephen Seltzer.
Psychiatry Department Meeting
3rd Monday, 12 Noon,
Contact: Howard Winkler, M.D.
Perinatal Conference
2nd Tuesday, 7:00 a.m.
Surgical Conference
2nd Tuesday, 7:15 a.m.
Hematology Conference
4th Tuesday, 12 Noon,
Contact: Gerald Giordano, M.D.
Pulmonary/Infectious Disease Conference
Weekly except 4th, Tuesday, 12 Noon,
Contact: B. Friedman, M.D.
Orthopedic Conference
1st Tuesday, 7:30 p.m.,
Contact: Jay Katz, M.D.
Pediatric Grand Rounds
1st & 3rd Tuesdays, 12:30 p.m.,
Contact: Dr. Lightner.
Neurophysiology Conference
2nd Tuesday, 5:00 p.m.,
Contact: Robert Foote, M.D.
Clinical Pathology Conference
Last Wednesday, 8:00 a.m.,
Contact: Dr. Fuchs.
Medical Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: M. Fuchs, M.D.
Neuorology-Neurosurgery Conference
Weekly, Wednesday, 12 Noon,
Contact: H. W. Buschsbaum, M.D.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: N. Komar, M.D.
Tumor Conference
Weekly, Thursday, 12 Noon,
Contact: Cancer Committee.
GI Conference
Weekly, Friday, 12 Noon,
Contact: Charles Sanner, M.D.
Interhospital Nuclear Medicine Conference
Weekly, Friday, 7:15 a.m.,
Contact: S.V. Hilts, M.D.
OB/GYN Conference
1st Friday, 7:30 a.m.,
Contact: Charles Parker, M.D.
OB/GYN Pathology Conference
3rd Friday, 7:30 a.m.,
Contact: R. Spark, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.
Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5,
Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5,
Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435,
Contact Dr. Benene, Ext. 786
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134,
Contact: Dr. Russo, Ext. 362
and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134,
Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference

1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.
G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon,
Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410,
Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m.,
Room 4115, Contact: Dr. Rohwedder,
Ext. 388.

Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435,
Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.
Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5,
Contact: Dr. Zeller, Ext. 272
Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435,
Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647

Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512,
Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435,
Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134,
Contact: Dr. Haddad, Ext 418.
Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Conta
Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134,
Contact: Dr. Cintora, Ext. 417.

ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.
Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am.,
Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium
Chest Conference
4th Monday, 12:15 p.m., Phillips Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips Auditorium.
Psychiatry Conference
3rd Thursday, 7:00 a.m., Auditorium.
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m.,
1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m.,
Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.
Pediatric Department.
Pediatric Grand Rounds
4th Tuesday, 7:30-8:30 a.m., Contact:
J. Kipp Charlton, M.D.
ECG Conference
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
Medical Grand Rounds
Weekly, Wednesday, 8:00 a.m.,
1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 8:00 a.m., PIMC.
Visiting Professor Informal Presentation
Weekly, Thursday, 9:30 a.m.,
1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 12:30 p.m., PIMC.
Nephrology Conference
Weekly, Fridays, 12:30 p.m.,
Pediatric Department.

T. JOSEPH'S HOSPITAL TUCSON

Wilmot Road, Tucson, AZ 85711
t: Yvonne Clingerman, Medical Staff
Approved for Category 1 credit.
t Concepts in Medicine
, Tuesday, 12 Noon, Auditorium
on Allergies
, Tuesday, 12 Noon, Auditorium
y Department Conference
nday, 12 Noon, Auditorium
ology/Oncology Conference
ednesday, 12 Noon, Contact:
lansour, M.D.
almology Case
esday, 7:30 a.m.
almology Society
esday, 6:00 p.m., Auditorium
t: Leonard Joffe, M.D.

T. MARY'S HOSPITAL & HEALTH CENTER

, St. Mary's Road, Tucson, AZ
Contact: see below.
y Specialty Conference — Dept. of y
nday, 7:30 a.m., Century Rm. A.,
t: Med. Staff Office.
iver Conference - Lab Conference

onday of each month - 12:00 noon.
Rounds: Medical, Surgical, Family e, Pathology, Radiology
, Thursday.
ency Medicine Lectures
, Thursday, 8:00 a.m.,
y Rm. A.
logy Conference
, Friday, 8:00-9:00 a.m., Century
ontact: Anthony Forte, M.D.

RESCOTT VETERANS INISTRATION HOSPITAL MEDICAL CENTER

tt, Arizona 86313. Contacts listed
Approved for Category 1 credit.
l Rounds
rd Thursdays, 10:00 a.m.-2:30 p.m.
al Rounds
ursday, 10:00 a.m.-2:30 p.m.

TUCSON VETERANS INISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

outh Sixtieth Ave., Tucson, AZ
Contacts listed below. Approved for
ry 1 credit.
l/Surgical Chest Conference
, Tuesday, 2:00 p.m.,
t: Dr. Young.
l Grand Rounds
, Wed., 12:00-1:00 p.m., VA Hospital
onf. Rm. & (AHSC),
t: Jay Smith, M.D.
al Grand Rounds
, Wed., 4:00 p.m.,
t: Dr. Putnam.

Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m., Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Conf.
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m.,
Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma, Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

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Anesthesiology Board Review Conference
2nd & 4th Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contacts: Drs. Vaughn & Kryc.
Anesthesiology Basic/Clinical Sciences Lectures
Weekly, Thursday, 4:00-5:00 p.m., Room 5403.
Anesthesiology Case Discussion
Weekly, Wednesday, 7:00 a.m., AHSC, Dining Rm. C&D.
Anesthesiology Resident Presentation
1st Monday, 4:00-5:00 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
Cancer Center Tumor Board Seminar
3rd Tuesday, Monthly, 12:00-1:00 p.m., HSC Auditorium, Contact: Cancer Center.
Cardiac Catheterization Conference
Weekly, Friday, 4:30 p.m.,
Contact: Dr. Ewy.
Cardiology Non-invasive Conference
Weekly, Friday, 3:30 p.m.,
Contact: Dr. Ewy.
Tucson Cardiac Society
1st Thursday, 6:30 p.m., Arizona Inn,
Contact: Karen Garcia.
Clinical Immunology, Allergy & Rheumatology Rounds
Every Friday, Noon-1:00 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
Cerebrovascular Disease Conference
Mondays, 5:00-6:00 p.m., Weekly, Rm. 5505., Contact: Jerry Goldstone, M.D., Dept. of Surgery.
Dermatology Conference
4th Monday, 5:15 p.m., AHSC,
Contact: Dr. R. Friedman.
Dermatology Rounds
Weekly, Wednesday, 11:30 a.m.,
Contact: Dr. Lynch.
Ear, Nose & Throat Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. S. Coulthard
Endocrinology Seminar
Weekly, Thursday, 12:00-1:00 p.m.,
Contact: Dr. Johnson.
Emergency Medicine Grand Rounds
Tuesdays, 9:00 a.m., AHSC,
Contact: Dr. Sanders.
GI Pathology Conference
4th Friday, 1:30 p.m., AHSC,
Contact: S. Paplanus.
GI Radiology Conference
2nd & 4th Mondays, 7:30 a.m., AHSC,
Contact: Dr. T. Hunter.
Head & Neck Tumor Management Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. Murrell.
Hematology-Oncology Clinical Conference
1st & 5th Tuesdays, Noon-1:00 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.
Medical Grand Rounds
Weekly, Wednesday, 12:00-1:00 p.m., AHSC, Contact: Dr. J. Smith.
Morbidity/Mortality in E.M.
2nd Tuesday, 9:00 a.m., AHSC,
Contacts: Drs. Hughes & Alcorn.
Neuromuscular Disease Conference
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Stern.
Neuropathology Case Review
Weekly, Friday, 8:30 a.m., UAHSC,
Contact: Dr. P. Johnson.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: Dr. P. C. Christenson.
Neuromuscular Journal Conference
2nd & 4th Thursdays, 7:00-9:00 p.m.,
Contact: Dr. Stern.
Neurosciences Seminar
Weekly, Tuesday & Friday, 7:30 a.m.,
AHSC, Contact: Dr. C. Bamford.
Nuclear Medicine
Weekly, Thursday, 7:30 a.m., AHSC
Radiology Conference Rm.
OB/GYN Lectures
Weekly, Friday, 3:30 p.m., AHSC,
Contact: Dr. C. D. Christian.
Ophthalmology Grand Rounds
3rd Friday, 7:30 a.m., AHSC,
Contact: Dr. J. Herschler.
Ophthalmology Retina Fluoro. Conference
Weekly, Thursday, 5 p.m., AHSC,
Contact: Dr. H. Cross.
Orthopedic Rounds
Saturday, 8:00 a.m., Contact: Dr. Peltier.
Pain Conference
3rd Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.
Pathology Conference
Weekly, Monday, 12 noon, AHSC,
Contact: Dr. C. D. Christian.
Pathology Seminar
Weekly, Friday, 4:30-5:30 p.m., AHSC,
Rm. 5120. Contact: Dr. P. Finley.
Tucson Pathologist Conference
1st Monday, 7:30 p.m., AHSC,
Contact: Dr. A. R. Graham.
Pediatric Grand Rounds
2nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
Contact: Dr. H. Thompson.
Pediatric Problem Patient Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Lillian Valdes-Cruz.

Pediatric Research Forum
Weekly, Tuesday, 7:30 a.m.,
Contact: Dr. Otakar Koldovsky.
Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.
Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.
Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.
Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.
Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.
Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.
Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.
Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.
Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.
Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.

Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.
Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.
Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.
Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.
Trauma Conference
Thursday, 4:00-5:00 p.m. AHSC, Rm. 5505.

Toxicology Conference
Weekly, Tuesday, 8:00 a.m.,
Contact: Dr. Keith Likes.
Tucson Ultrasonography Group
Weekly, Wednesday, 4:30 p.m., AHSC
Contact: Dr. I. Freundlich.

General Urology Conference
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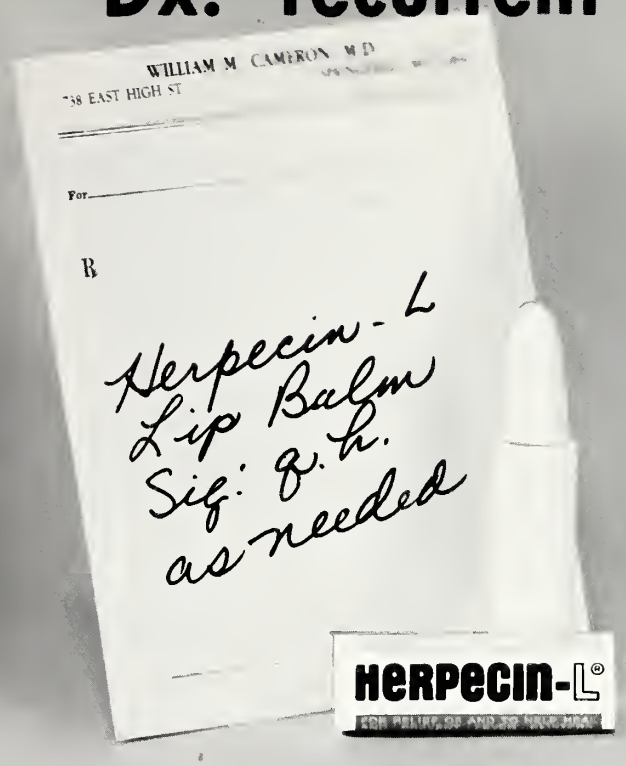
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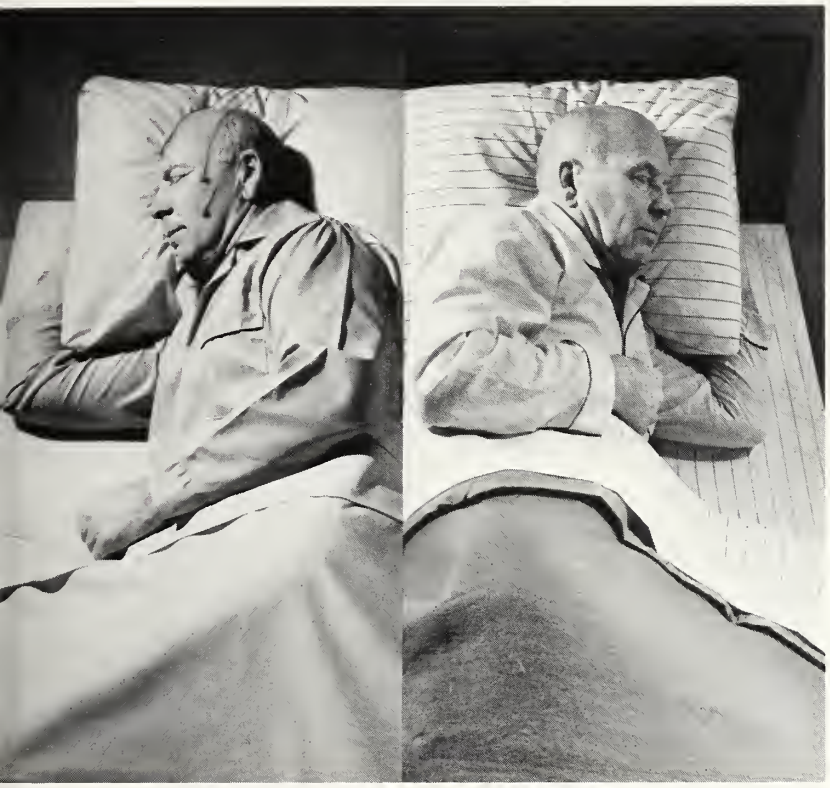
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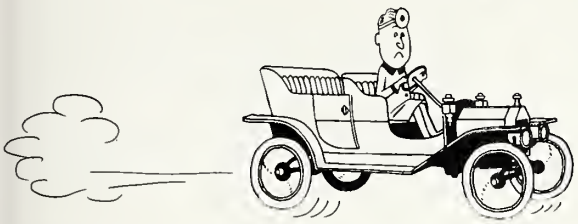
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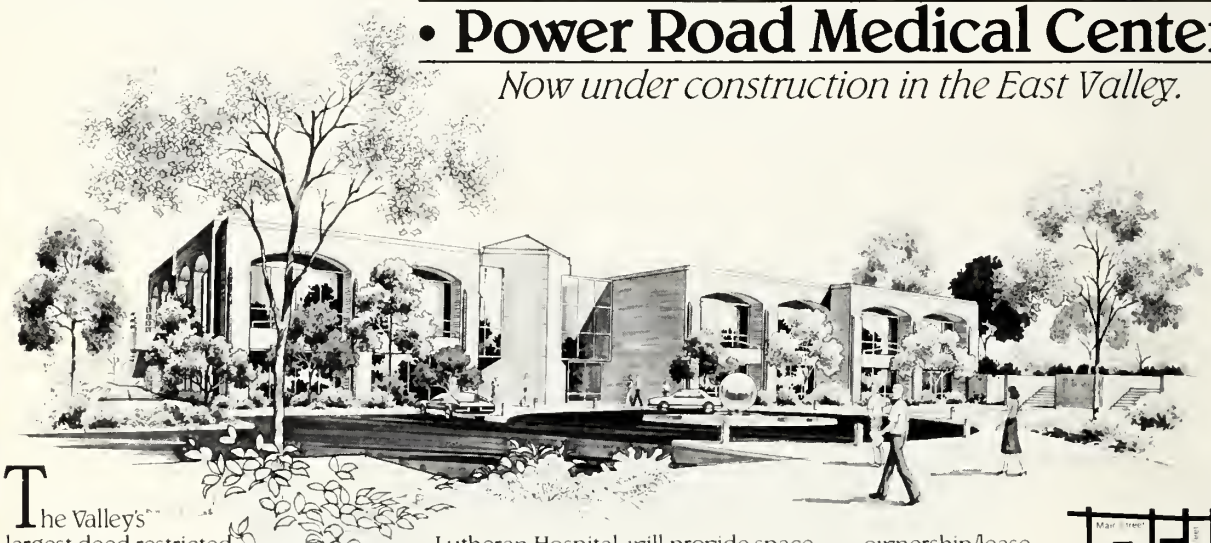
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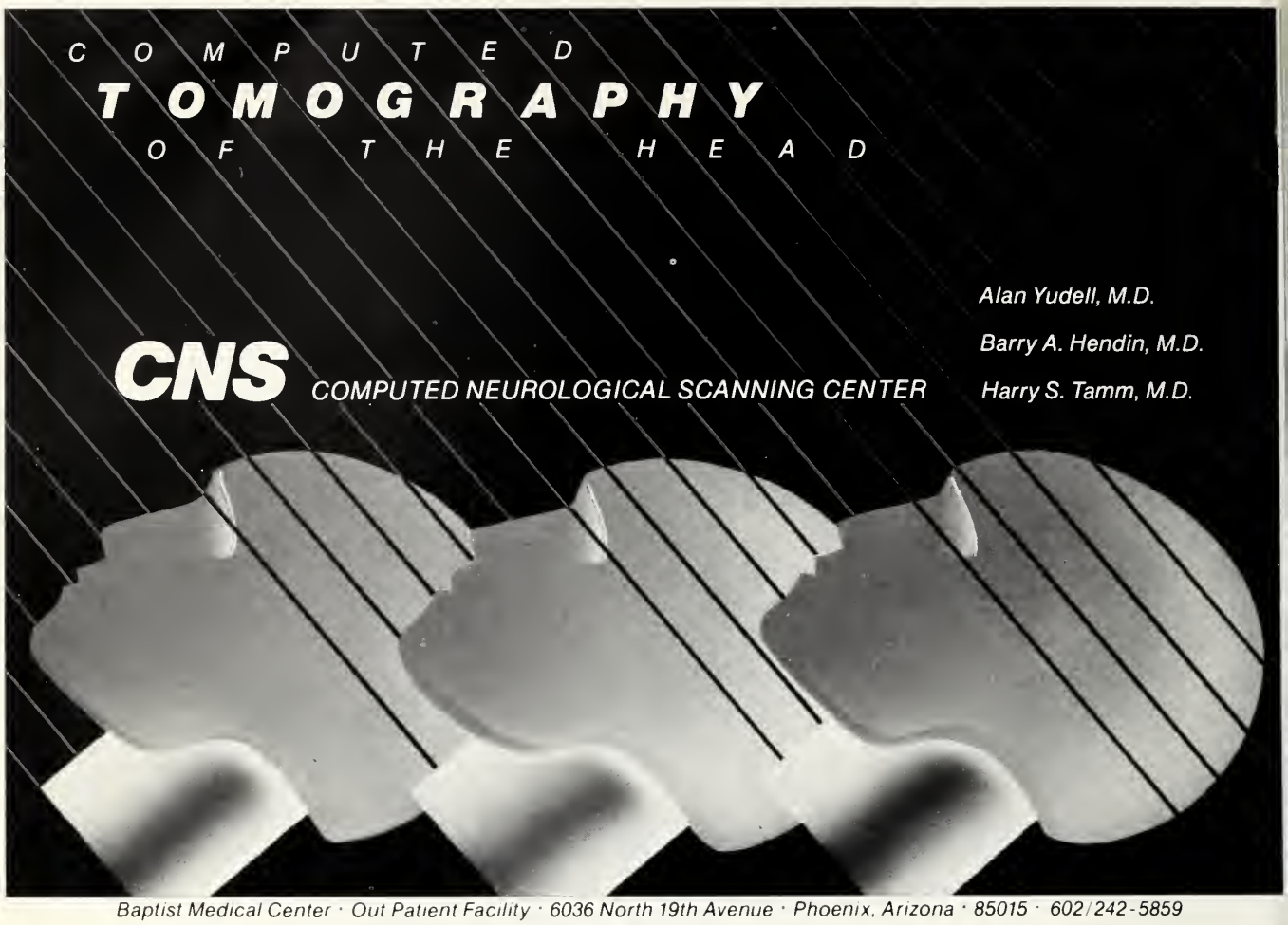
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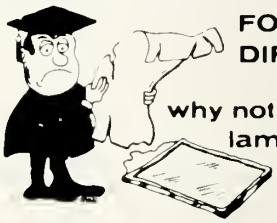
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Automatic Implantable Cardioverter-Defibrillator:

A Device for Malignant Ventricular Arrhythmias and Sudden Death

Robert W. Emery, M.D.
Shoei K. Huang, M.D.
Jack G. Copeland, M.D.
Frank I. Marcus, M.D.

Abstract

The Automatic Implantable Cardioverter-Defibrillator (AICD) senses and converts malignant ventricular arrhythmias including ventricular tachycardia (VT) and fibrillation (VF). Current clinical trials indicate a decreased mortality in selected patients who have undergone implantation of the device, which is utilized in conjunction with medical antiarrhythmic therapy. The use of two transcardiac "patch" defibrillation electrodes increases the efficiency of cardioversion when compared with a single "patch" electrode and a superior vena caval electrode. Median sternotomy is a safe approach and has the advantage of allowing implantation of the electrode system with the lowest defibrillation threshold. Testing of the device is undertaken intraoperatively as well as in the electrophysiological laboratory prior to hospital discharge. Two patients have had the AICD implanted at the University Medical Center. Out-of-hospital discharge of the defibrillator occurred in each patient in late follow-up. Data indicate the AICD prevents sudden death in selected patients and is clinically useful in the treatment of malignant recurrent ventricular arrhythmias.

Key Words: Malignant Ventricular Arrhythmias, Automatic Implantable Cardioverter-Defibrillator, Defibrillation, Implantation Techniques, Sudden Cardiac Death.

Introduction

Of the 700,000 deaths occurring each year from coronary artery disease, approximately 350,000 of these are sudden and are probably due to ventricular arrhythmias. There is 70% probability of recurrence in patients resuscitated from out-of-hospital cardiac arrest when death is not associated with an acute myocardial infarction and when the patient has a history of prior myocardial infarction, congestive heart failure or complex ventricular ectopy.[1] The Automatic Implantable Cardioverter-Defibrillator (AICD) device (AID®-B; Intec-Systems, Inc.) was developed to treat patients suffering from such life threatening ventricular arrhythmias. The first implant took place in February 1980 and intensive clinical and laboratory evaluation has led to important functional and structural improvements from the original design. We have recently utilized the AICD in one young and one elderly patient. The design of this device, methods of surgical implantation, and the case histories of two patients are presented.

AICD Components

The components necessary for sensing, charging and defibrillation are shown in Figure 1. The structural characteristics have been previously described.[2] Briefly, the pulse generator is an 11.2 x 7.1 x 2.5 cm titanium hermetically sealed outer can. The weight is 292 gms. The inner can houses over 300 discrete electronic components and is located in the upper portion of the unit. Capacitators and batteries occupy the lower. Audio communication is served by a Piezo-electric crystal near the center of the can. The device is tested by a ring magnet to determine whether the device is active or inactive. An external monitoring (AIDCHECK-B®) device with telemetry monitors battery strength and pulses delivered.



Figure 1
Components of AICD: From left to right (A) left ventricular transcardiac cathode "patch" electrode (Model L67), (B) right ventricular "patch" transcardiac anodal electrode (Model A-67), (C) pair of "screw-on" epicardial pacemaker electrodes and (D) AICD generator pack.

Two screw-in electrodes (Figure 1) are utilized to determine heart rate and serve for R-wave synchronization by bipolar sensing. These leads are placed 1 cm apart on the superior-lateral left ventricular surface of outflow tract of the right ventricular and the leads are

From: The Section of Cardiothoracic Surgery, Department of Surgery and the Section of Cardiology, Department of Internal Medicine, University Medical Center, University of Arizona, Tucson, Arizona. Reprint requests to Robert W. Emery, M.D., University Medical Center, Surgery Department, 1501 North Campbell Avenue, Tucson, Arizona 85724.

serted into the lowermost apertures of the generator ack.

Two "patch" electrodes monitor signals for probabil- density function (sinusoidal nature of the cardiac ave form) and are the defibrillator electrodes. These ectrodes are also shown in Figure 1. The larger size, 67, has a surface area of 17 cm^2 and serves as the thode while the smaller patch (A67), having a surface ea of 13.5 cm^2 serves as the anode. If the heart is arkedly enlarged, two large patch electrodes may be sed. The larger patches although predisposing to eater pericardial irritation permit lower defibrillator resholds.[3] Alternatively, a catheter electrode can be laced into the superior vena cava and serve as the node. The electrodes insert into the superior most pertures of the generator pack.

dications for Utilization

Currently this device is under clinical investigation nd is used in patients with documented episodes of udden death and/or recurrent malignant ventricular rrhythmias refractory to medical management as evi- enced by recurrence of ventricular fibrillation or alignant ventricular arrhythmias in the face of several ials of medical management. In certain cases patients ho had experienced "sudden death" and were found be inducible at electrophysiologic testing while on a herapeutic regimen are also candidates for surgery Table 1).

Table 1

Criteria for AICD in Patients with Life Threatening Ventricular Arrhythmias

1. Survivor of at least one episode of sudden death not occurring within 6 weeks of an acute MI.
2. Failure of conventional antiarrhythmic agents.
3. Mental capability to provide informed consent.
4. No other disease process limiting survival to $<$ 6 months.

Operative Techniques

Under general endotracheal anesthesia a median ster- notomy is performed allowing direct control of cardiac dysrhythmias with internal defibrillator paddles. After creation of a pericardial well, the large posterior left ventricular patch is implanted, tacking down its four corners with interrupted sutures on the posterolateral surface of the left ventricle. The smaller anode patch is then placed on the inferior surface of the right ventricle curving over the acute margin of the heart to the ante- rior right ventricular surface and secured with inter- rupted nonabsorbable sutures (Figure 2). Two sensing "screw-in" electrodes are then placed 1 cm apart in the superior portion of the left ventricle, well away from both patches. With the electrodes in place, a transverse incision is made in the left paraumbilical area and a subcutaneous, suprafascial pocket is made to accommodate the defibrillation generator. The defibrillator wires and sensing electrodes are then passed below the costal margin to the pocket. The electrodes are tested to determine proper signal information and defibrillation threshold using a calibrated external cardioverter-defibrillator. A second test is performed after all electrode wires are connected to the AICD generator pack and the generator activated. An external defibrillator is used as back-up (Vide Infra). Internal defibrillator paddles or electrocautery must not be used while the AICD is active. The sternum is closed with wires over a single mediastinal drainage tube and the wounds closed in layers.

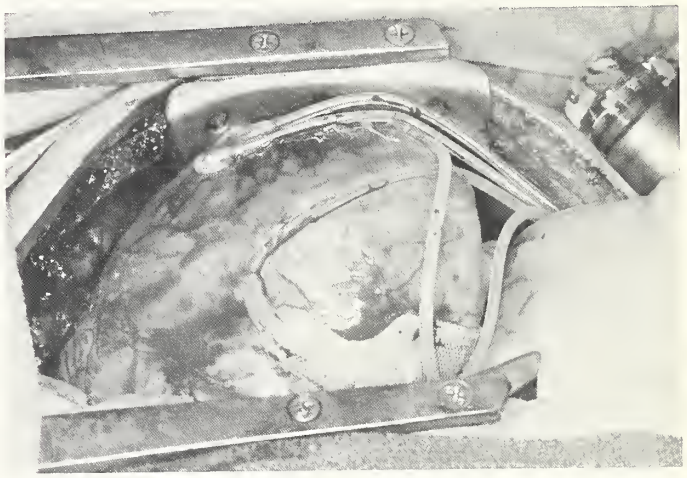


Figure 2

Operative photograph of the AICD. The patient's head is to the left. The heart is enlarged with biventricular dilatation. Note the smaller A67 electrode curving onto the right ventricular surface. The larger L67 cathode transcardiac electrode lies posteriorly. Only the connecting wire is visible. Two "screw-in" epicardial sensing electrodes are on the anterolateral portion of the left ventricle. The AICD generator is shown in the upper right.

Testing of AICD

The defibrillation threshold is determined after the "patch" electrodes have been sutured but before they have been connected to the AICD generator. The electrodes including the implanted "screw-in" sensing electrodes are connected to an external cardioverter-defibrillator unit calibrated to deliver 1-40 joules. Once connection is completed the heart is electrically fibrillated using either programmed stimulation or AC current applied by the "screw-in" electrodes. After a period of several seconds defibrillation is carried out at a threshold of 15 joules. With adequate defibrillation no further external testing is carried out. If defibrillation is not attained, the external unit's output is increased to 20 or 25 joules and defibrillation is carried out at this level. Twenty-five joules has met with consistent success. The sensing and "patch" electrode leads are then inserted into the pulse generator as described, and wires are connected to the external unit for monitoring via lateral

inlets on the pulse generator which is then placed in the subcutaneous pocket. The generator is activated by placement of a magnet. A steady tone from the audio component when a magnet is placed indicates an inactive state. When synchronous beeping is audible the device is active. The heart is again electrically fibrillated in order to test the sensing and discharge function of the generator. Over a period of 5 to 15 seconds the arrhythmia is sensed. This is followed by a 5 to 15 second charge time followed by an energy pulse of 25 joules. Should defibrillation occur, intraoperative testing is considered complete and closure is undertaken. If defibrillation does not occur with a single shock, the unit recycles automatically. There is a further 5 to 15 second period of sensing, a 5 to 15 second period of charging and a second 25 joule pulse. External manual paddle defibrillation is carried out at this point and defibrillation threshold is performed once again. Outpatient determination of battery life and the number of charges delivered is done every three months by external telemetry using the AID-CHECK-B® (Intec Systems, Inc.).

After recovery from surgery and prior to discharge from the hospital, proper functioning of the device is confirmed in the electrophysiologic laboratory by endocardial catheter induction of VT or VF (Figures 3 and 4).

Case Report 1

M.A., an 18-year-old male, was well until nine months prior to admission. He then complained of sharp retrosternal chest pain. The patient had a family history of sudden cardiac death, including a maternal uncle and two cousins. Because of this family history, an intensive workup was undertaken. He had a normal electrocardiogram. The QT interval was within normal limits. Lateral precordial ST-segment elevations were interpreted as consistent with early repolarization. An exercise tolerance test and Holter monitor did not show evidence of complex ventricular arrhythmias. His coronary arteriogram was normal and the left ventriculogram showed normal ventricular function. A right ventriculogram did not show evidence of right ventricular dysplasia and a right ventricular biopsy was normal. Left ventricular biopsy demonstrated fibrosis. Subsequently, he had three episodes of syncope with spontaneous recovery and one episode of out-of-hospital sudden death requiring cardiopulmonary resuscitation. Although the Holter monitor and exercise test prior to the out-of-hospital sudden death did not show ectopy, the Holter monitor after the episode showed short bursts of rapid ventricular tachycardia, particularly when the heart rate increased. Even though the bursts of VT were nearly eliminated by amiodarone and propranolol, ventricular fibrillation was readily induced during right ventricular programmed electrophysiological stimulation. Therefore, an automatic implantable cardioverter-defibrillator was inserted by a median sternotomy. The operative procedure was tolerated well. One day prior to discharge, ventricular fibrillation was induced in the electrophysiologic laboratory and spontaneous defibrillation by the AICD occurred (Figures 3 and 4). The patient was discharged on the seventh postoperativ day. He continues to take amiodarone and propranolc Within six months of implantation of the device, he ha one episode of syncope followed by triggering of th AICD after which he promptly regained consciousnes The patient is now able to fully participate in the activ ties of daily life.

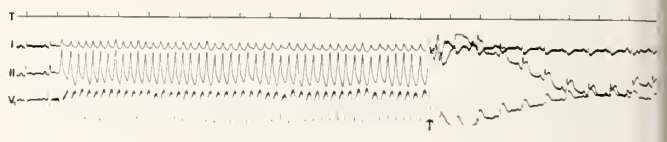


Figure 3
Pre-discharge endocardial induction of ventricular tachyca dia in electrocardiographic leads I, II and V^1 associated wit loss of systemic perfusion. Discharge of the AICD occurs at th arrow with conversion to sinus rhythm. Note the 12.5 secon interval from onset to conversion (T:Bars = 1 second) require by the AICD for sensing, charging and conversion.

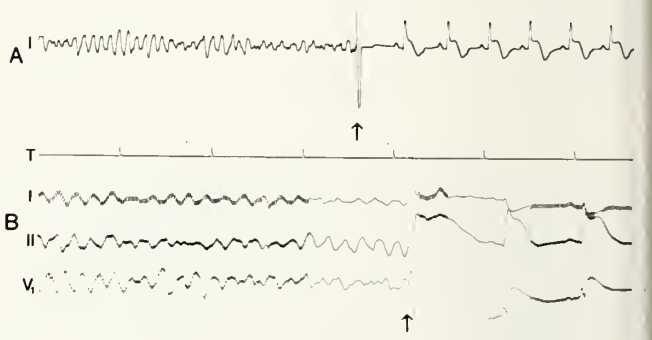


Figure 4
Pre-discharge endocardial induction of ventricular fibrillatio (not shown) resulted in sensing, charging and defibrillation o the AICD (arrow) with conversion to sinus rhythm. The ST segment elevation rapidly resolved.

Case Report 2

A.S. is a 74-year-old female with a history of cardiomyopathy and recurrent spontaneous ventricular fibrillation. Prior to admission, she had six episodes o out-of-hospital cardiac arrest, all responding to cardiopulmonary resuscitation. These were documented as ventricular fibrillation and occurred despite treatment with numerous antiarrhythmic drugs, the most recent consisting of amiodarone and mexiletine. Cardiac catheterization revealed normal coronary arteries. She had a dilated, poorly contracting left ventricle with elevated filling pressures of the right and left sides. The left ventricle was hypertrophic. There was no evidence of myocar-

lial fibrosis, scarring or aneurysm. The patient had mplantation of the AICD device and tolerated the procedure well. Prior to discharge she was brought to he electrophysiologic laboratory where ventricular ibrillation was induced and this arrhythmia was automatically converted to sinus rhythm with activation of he AICD device. The patient was discharged from the nospital on the ninth postoperative day with continuaion of amiodarone therapy. In spite of treatment with his antiarrhythmic drug, she had one syncopal episode ollowed by discharge of the AICD and promptly egained consciousness.

Comment

The pathogenesis of arrhythmias that cause out-of-nospital sudden death is unclear. Usually this catastrophic event occurs in patients with triple vessel coronary disease and poor left ventricular function. There is a subset of this group of patients who have no coronary artery disease nor evidence of acute myocardial infarction, as our first patient. Episodes of sudden death such as these are believed to be due to a derangement in the heart's electrical activity.[4] Ventricular fibrillation may follow increasing frequency of salvos of PVC's, may be preceded by a brief episode of VT that degenerates into ventricular fibrillation, or rarely occurs without immediate preceding ventricular ectopy. Recurrence of these lethal arrhythmias is common and not reliably prevented by antiarrhythmic drug therapy. Because of this problem, the AICD was developed by Mirowski and his group and was first implanted by them in 1980 in Baltimore.[5] In clinical trials, this device had been shown to be effective in treatment of patients with recurrent ventricular tachyarrhythmias and ventricular fibrillation without serious risk or complications.[6] A second generation device is currently undergoing clinical trials. The clinical trials are nearing an end and the current device will soon be commercially available. On the horizon is a smaller model of this device containing more compact electronics, memory and programmability.[4]

There has not been an operative mortality reported. Several approaches have been used to implant the sensing leads as well as the leads through which defibrillation is accomplished. These include median sternotomy, left subcostal thoracotomy, left anterior thoracotomy, and a subxyphoid approach.[7-9] The AICD has been implanted at the time of cardiac procedures such as coronary bypass grafting and valve replacement.[10] We prefer the median sternotomy approach as it allows excellent control of cardiac arrhythmias as well as implantation of the two epicardial patch defibrillator electrodes. The use of the two "patch" electrodes permits defibrillation with a lower ventricular defibrillation threshold than with other electrode configurations.

In spite of the fact that the AICD successfully and reliably converts malignant and life threatening arrhythmias, it is often desirable or necessary to continue antiarrhythmic drug therapy after the device has been implanted. Antiarrhythmic drug therapy is complimentary since it reduces the frequency of recurrence of ventricular arrhythmias that require the device to be activated. Since antiarrhythmic therapy is not completely effective in certain high risk patients, it is gratifying to have this automatic cardioverter-defibrillator implanted to serve as a backup. The use of the AICD has halved the expected one-year mortality (23% versus 52%) and has markedly decreased the incidence of sudden cardiac death.[11]

The AICD may be activated by cardiac rhythm abnormalities other than ventricular fibrillation or ventricular tachycardia. It may sense long runs of supraventricular arrhythmias including atrial fibrillation with a rapid ventricular response, particularly if there is aberrant ventricular conduction with a wide QRS complex. The sensing of these arrhythmias initiates charging and subsequent firing. Conversion of these atrial arrhythmias to normal sinus rhythm as opposed to malignant ventricular arrhythmias is often unsuccessful. Diagnosis and prevention of recurrence of these antiarrhythmias with antiarrhythmic medications and occasionally catheter ablation of the AV node is necessary.[7] Alternatively, the ventricular rate may be decreased with the use of medications such as beta adrenergic blocking drugs that decrease AV nodal conduction and enhance AV nodal refractoriness. The net response is to decrease the ventricular rate and prevent activation of the AICD.

In summary, the AICD appears to be an effective device for the treatment of patients with recurrent ventricular tachyarrhythmias or ventricular fibrillation that are refractory to medical management alone. It is anticipated that the AICD will be used more frequently for treatment of refractory ventricular arrhythmias. With continued design improvements this device may be indicated in patients with malignant ventricular arrhythmias at the high risk of sudden death even before an episode of spontaneous ventricular fibrillation has occurred.

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Barrett's Esophagus

Richard E. Sampliner, M.D.

Abstract

Barrett's esophagus is defined as the endoscopic appearance of gastric mucosa in the tubular esophagus documented histologically by the presence of columnar epithelium. Barrett's represents a complication of gastroesophageal reflux which can be demonstrated by nuclear scintiscanning in the majority of patients with Barrett's. The frequency of adenocarcinoma complicating Barrett's esophagus is lower than previously thought. Major regression of columnar mucosa is difficult to achieve with both medical and surgical therapy. Only 7 of 25 patients in the current series had minimal regression over a mean follow-up of 26 months. Patients with Barrett's esophagus need to be treated symptomatically for their gastroesophageal reflux and screened for carcinoma.

Key Words: Barrett's Esophagus, Adenocarcinoma

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Barrett's Esophagus

Barrett's esophagus is a condition in which the normally squamous lined esophagus is replaced by columnar epithelium. Barrett's is generally considered to be an acquired condition resulting from gastroesophageal reflux (Figure 1). Presumably, the injured lower esophageal epithelium heals with columnar mucosa. Controversy exists as to the precise definition of Barrett's esophagus. How much of an irregular gastroesophageal junction is necessary to call a Barrett's esophagus? Is it a matter of extent, of centimeters, or a matter of a specific type of epithelium? For the purposes of this article and for practical clinical purposes, an adequate definition is the endoscopic appearance of gastric mucosa in the tubular esophagus documented histologically by the finding of columnar epithelium.

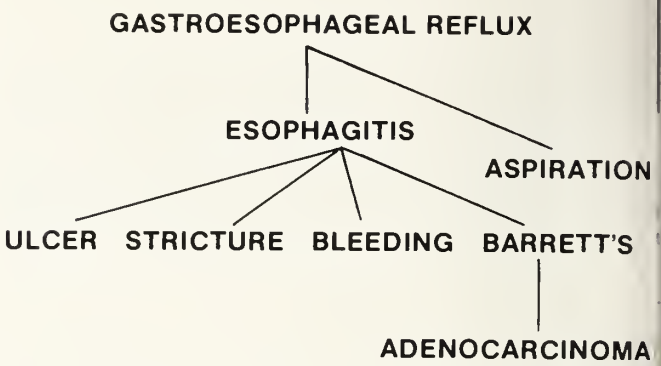


Figure 1
The complications of gastroesophageal reflux

The symptoms of Barrett's esophagus are those of gastroesophageal reflux and its complications. The most common symptoms are heartburn, regurgitation and dysphagia.[1] Dysphagia often results from the inflammatory complications of esophageal ulcer and stricture.

The frequency of Barrett's esophagus ranges from 4% in patients undergoing endoscopy in a clinical setting[2] to 12% in autopsy studies. The frequency of finding Barrett's esophagus will depend upon the threshold for endoscopy and biopsy of the distal tubular esophagus in patients with reflux symptoms. With our current awareness of Barrett's at the Tucson Veterans Administration Medical Center, we have identified 52 patients in the last 23 months with biopsy-proven Barrett's esophagus.

At a clinical level, the best way to detect Barrett's esophagus is by endoscopy. Barrett's mucosa has the velvety red appearance of gastric mucosa in striking contrast to the pale and glossy squamous mucosa of the normal appearing esophagus (Figure 2). The proximal margin of columnar mucosa is often irregular with finger-like projections and isolated islands. No factors have yet been identified to select patients at risk for Barrett's from the general population of patients with

ronic reflux symptoms. While double-contrast barium allow techniques have improved the sensitivity of the diologic evaluation of the esophagus, this technique is not been demonstrated to be helpful in detecting arrett's esophagus. A proximal esophageal stricture is ggestive of Barrett's, but most strictures in patients ith Barrett's involve the distal esophagus.[3]



Figure 2
ndoscopic appearance of Barrett's esophagus: The proximal ale mucosa is normal squamous epithelium; the distal red ucosa is columnar.

Gastroesophageal reflux was evaluated in our popula- on of Barrett's esophagus by Nuclear Medicine scintis- anning. Patients ingested a liquid meal of 300 mls c-99M sulfur colloid in orange juice. Reflux was ssessed in the supine position by serially increasing xtrinsic abdominal binder pressures from 0 to 100 mmHg. Seventeen of 21 patients (81%) with Barrett's emonstrated reflux compared to none of the 11 con- ols lacking gastrointestinal symptoms.

The complications of Barrett's esophagus are inflam- natory and neoplastic in nature. The most common omplications consist of esophagitis, ulceration and tricture formation. The two former problems may result n gastrointestinal bleeding. In our series of Barrett's atients, 18 had a stricture, 16 an esophageal ulcer and ight episodes of gastrointestinal bleeding.

The most feared complication of Barrett's esophagus adenocarcinoma of the esophagus. Adenocarcinoma usually thought of as an infrequent neoplasm of the sophagus. In at least one series, however, one-third of sophageal cancers were adenocarcinoma.[4] Addition- lly, the majority of adenocarcinomas occur in the pres- nce of Barrett's mucosa.[5] One hundred eighty-nine ases of adenocarcinoma in Barrett's esophagus have been reported. Unfortunately neither the denominator opulation nor the duration of follow-up is known. A ommonly cited series reports that 8.6% of patients with Barrett's esophagus had adenocarcinoma—this clearly epresents prevalence data.[6]

Only two incidence studies of adenocarcinoma in Bar- ett's esophagus have been reported. Both of these demonstrate adenocarcinoma in fewer patients than would be expected from the commonly quoted figure—one in 175 patient years of follow-up and one in 441 patient years.[7-8] This incidence, although some 40-fold greater than that of the general population, is substantially lower than previously estimated. The low incidence of adenocarcinoma brings into question the value of routine endoscopic and histologic surveillance that has been recommended for patients with Barrett's esophagus. By analogy with ulcerative colitis, the goal is to routinely screen patients with Barrett's esophagus looking for histologic evidence of neoplasia. However, the clinical experience with dysplasia in Barrett's esophagus has been very limited.[9] The analogy with ulcerative colitis may not be valid in the sense of the relatively poor prognosis of esophageal adenocarcinoma compared to colorectal adenocarcinoma.

Aside from the cancer issue, can we affect the progression of Barrett's esophagus? Can our therapeutic maneuvers prevent further progression or increase the likelihood of regression of the extent of Barrett's mucosa? Once again, the number of observations that have been reported are extremely limited. Combining two series of patients undergoing anti-reflux surgery, eight of 25 patients had regression of Barrett's esophagus.[10,11] However, none of these patients demonstrated complete regression of columnar epithelium. Regression has been demonstrated in only one of 13 medically treated patients.[12,13] In our own series, 25 patients have been followed a mean of 26 months (5 to 80 months). No change in the extent of Barrett's over time was observed in ten patients; seven regressed and eight progressed. Only two patients had greater than a 2 cm change in the extent of Barrett's mucosa, both regressing. A 2 cm change over time may well represent observer error at the time of endoscopy. Twenty-one of the 25 patients received chronic H_2-antagonist therapy for symptomatic relief: seven with no change in Barrett's mucosa, seven with regression and seven with progression. The impact of therapeutic intervention on the extent of Barrett's mucosa is limited at best.

What do we do about Barrett's esophagus? In spite of the lower than expected frequency of carcinoma in Barrett's esophagus, recognition of this entity is clinically important. Having documented Barrett's esophagus, the patient should be treated for his or her symptoms of gastroesophageal reflux in the routine clinical manner. This consists of stepwise medical therapy, leading to surgery only if all medical interventions fail.[14] The issue of screening for carcinoma of the esophagus remains. Until further information is available, regular screening endoscopy and histologic sampling of the esophagus is still appropriate. If severe dysplasia is documented, then given our current state of knowledge, esophagectomy is indicated.

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Gonorrhea in Medically Indigent (AHCCCS) Patients

Barry D. Weiss, M.D.

Abstract

During a two year period beginning October 1, 1982, 832 cultures for *N. gonorrhoeae* were obtained from patients at the Family Practice Office of the University Medical Center in Tucson. Five hundred-ninety (70.9%) cultures were obtained from patients who were considered medically indigent, based on their enrollment in the Arizona Health Care Cost Containment System (AHCCCS). Two hundred-forty-two (29.1%) cultures were obtained from patients who were not enrolled in the AHCCCS program.

The rate of positive cultures in the AHCCCS patients was 0.8 percent (5/590) and the rate among non-AHCCCS patients was 1.7 percent (4/242). This difference was not statistically significant (p =.515).

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The medical literature indicates that, in genera patients of lower socioeconomic status are more like to be infected with *N. gonorrhoeae*. However, th results of this study suggest that physicians providin care for patients in the AHCCCS program do not need t increase their gonorrhea surveillance techniques solel because of a patient's medical indigency.

Key Words: Gonorrhea, Medical Indigency

Introduction

Although the incidence of gonorrhea has decrease in recent years, genital infection with *Neisseria gonor rhoeae* is still an important health problem in the Unite States.[1] There were 900,435 cases of gonorrhea reporte to the Centers for Disease Control (CDC) in 1983.[1]

The incidence of gonorrhea has been shown to var according to socioeconomic class. The incidence is low est among professionals and dependents of militar personnel.[2-4] In these populations, the incidence is i the range of 0.2 to 1.0 percent. In contrast, gonorrhe infection can be detected in 7.3 percent of inner-cit prenatal patients and 19.8 percent of urban femal prostitutes.[5,6]

Since October, 1982, approximately 5,000 Arizon physicians have been providing health care for patien of lower socioeconomic status through the Arizon Health Care Cost Containment System (AHCCCS), pro nounced "ACCESS."[7] Under AHCCCS, each indiger patient in the state is assigned to a primary health car provider who becomes responsible for providing tot medical care for the patient for a fixed, prearranged fe Before the institution of the AHCCCS program, th majority of indigent patients were cared for by the med cal staffs of county hospitals. After the AHCCCS progra went into effect, many of these patients were assigned t physicians whose practices had previously consisted c non-indigent, "middle class" patients.

As physicians learn to deal with the cost-benefit issue involved in providing medical care to indigent patient under a prepaid health plan, it would be useful to defin the incidence of various diseases in the indigent popula tion. In particular, it would be important to know th incidence of illnesses such as gonorrhea, which woul be expected to occur in higher incidence in povert level patients.

To obtain this information, the results of all genita specimens cultured for *N. gonorrhoeae* at the Famil Practice Office of the University of Arizona Medica Center were prospectively monitored for several years This data was recently reviewed with the objective o comparing the incidence of positive gonorrhea culture in medically indigent (AHCCCS) patients with the inci dence in non-indigent patients.

Methods

Subjects

The subjects from whom cultures were obtained wer patients seen for medical care at the Family Practic Office of the University of Arizona Medical Center i Tucson. The Family Practice Office is the major clinica teaching site for the university's family practice resid

ncy program. Approximately 20,000 patient visits are ade to the office each year. Patients who obtain care at e Family Practice Office represent a broad spectrum of cioeconomic levels, and include patients with third arty health insurance, participants in the AHCCCS pro- ram, and non-insured ("self-pay") patients.

To receive care under the AHCCCS program, patients ust meet certain financial eligibility requirements able 1).[8] In addition, patients are also automatically ligible for the AHCCCS program if they receive Supple- ental Security Income (SSI) from the Social Security dministration or if they receive Aid to Families with ependent Children (AFDC) from the Arizona Depart- ent of Economic Security.[8]

Table 1
Maximum Annual Income for AHCCCS Eligibility (8)

Persons In Household	Not More Than
1	$3,200
2	4,266
3	4,810
4	5,354
5	5,898
6	6,442

urveillance Techniques

Since October 1, 1982, all specimens obtained for *N. gonorrhoeae* culture have been prospectively recorded, long with culture results and identifying patient infor- mation. In addition, demographic information about ach subject, including age, sex, and method of pay- ment of medical bills (i.e. AHCCCS, self-payment, third arty insurance, etc.), is available through the office illing system.

Indications and criteria for obtaining genital cultures or *N. gonorrhoeae* rested with individual resident and aculty physicians. The most common indications were creening of prenatal patients and screening cultures during routine pelvic examinations. The results of all cultures obtained for any indication were included in his study except for those cultures obtained after treat- ment of gonorrhea (i.e. "test-of-cure cultures"); these cultures were excluded.

After two years of data collection ending September 30, 1984, data was reviewed to determine if the fre- quency of positive gonorrhea cultures was different among AHCCCS patients and non-AHCCCS patients.

Microbiologic Techniques

All specimens were obtained with either a cotton ipped endocervical swab (females) or calcium alginate urethral swab (males). Specimens were innoculated in the examination room onto modified Thayer-Martin agar containing 3.0 mg of vancomycin. The specimens were then incubated on-site in the Family Practice Office under an anaerobic condition for 48 hours at 35° to 37°C. Growth of *N. gonorrhoeae* was diagnosed according to criteria established by the CDC.[9] These include growth of colonies of typical morphology on Thayer-Martin agar, oxidase positivity, and gram staining demonstrating gram negative diplococci. All cultures which met these criteria were referred to a reference laboratory for confirmatory biochemical identification.

Statistical Analysis

The statistical package for the social sciences was used for statistical evaluations. The analysis of the frequency of positive cultures in the AHCCCS versus the non-AHCCCS patients was performed using the chi-square technique.

Results

During the two-year surveillance period, 832 genital cultures were obtained. Five hundred-ninety specimens (70.9%) were obtained from medically indigent (AHCCCS) patients and 242 (29.1%) were obtained from non-indigent (non-AHCCCS) patients. The percentage of cultures obtained from AHCCCS patients was similar to the percentage of total office visits made by AHCCCS patients to our office during the study periods (64.9%).

Other demographic information for the two groups of patients are displayed in Table 2. Patients in the AHCCCS group were more likely to be younger ($p < .0001$), unmarried ($p < .0001$), and of hispanic surname ($p < .0001$).

Table 2

Demographic Information for Subjects in Study

	AHCCCS Patients	Non-AHCCCS Patients
Number	n = 590	n = 242
Age (yrs) (mean ± standard deviation)	26.3 ± 7.0	30.1 ± 8.1
Sex		
female	578 (98.3)	219 (90.5)
male	10 (1.7)	23 (9.5)
Marital Status		
single	294 (53.1)	87 (40.3)
married	157 (28.3)	107 (49.8)
divorced	55 (9.9)	19 (8.8)
separated	46 (8.3)	2 (.9)
widowed	2 (0.4)	0 (0.0)
Hispanic Surname	221 (37.5)	46 (19.0)

Figures in parentheses represent percentages.

There were five positive cultures among the 590 specimens obtained from AHCCCS patients (0.8%) and four positive cultures among the 242 obtained from non-AHCCCS patients (1.7%). This difference was not significant ($X^2 = .42$, $p = .515$).

Of the 242 subjects who were classified as non-AHCCCS, 113 (46.3%) were "self-pay" (non-insured)

patients and 129 (53.3%) carried some form of third party health insurance. When self-pay and AHCCCS patients were considered together and their combined incidence of positive gonorrhea cultures was compared to that in the insured patients, there was no difference (1.1% versus 0.8%, $X^2 < .01$, $p > .99$).

Discussion

Numerous reports in the medical literature indicate that patients of lower socioeconomic class are more likely to be infected with *N. gonorrhoeae*.[2-6] However, the present study of medically indigent patients in Arizona did not find this to be the case. The percentage of positive cultures from indigent (AHCCCS) patients was numerically lower than the percentage in patients of higher socioeconomic status, and there was no statistical difference between the groups.

It is possible that the results of this study are due to a tendency of physicians to obtain a gonorrhea culture more readily during the examination of an AHCCCS patient because these patients are of lower economic class and, therefore, thought to be at increased risk of being infected with *N. gonorrhoeae*. If this were occurring it would explain the lower rate of positive cultures among AHCCCS patients since the practice would probably result in excess negative cultures being obtained from AHCCCS patients. However, this bias does not appear to be present since the percentage of all *N. gonorrhoeae* cultures which were obtained on AHCCCS patients (70.9%) is similar to the percentage of total office visits by AHCCCS patients (64.9%) during the study period.

It is also possible that the lack of difference between the rate of positive cultures in the AHCCCS and non-AHCCCS groups may be due to the fact that the non-AHCCCS group contained many patients of low socioeconomic status. Forty-six percent of the non-AHCCCS group were categorized as self-paying, non-insured patients. Thus, the economic status of the AHCCCS and non-AHCCCS group may have been similar and this may have accounted for the lack of differences between the group. However, if the self-pay, non-AHCCCS patients are considered together with the AHCCCS patients and their combined incidence of gonorrhea (1.1%) is compared to the incidence among insured patients (0.8%), no statistical difference is noted.

Thus, it appears that patients enrolled in the AHCCCS program are no more likely to be infected with *N. gonorrhoeae* than patients who do not qualify for the program. Therefore, Arizona physicians who provide care for AHCCCS patients need not, based on the results of this study, alter their surveillance techniques for detection of gonorrhea solely on the basis of a patient's enrollment in this health care program for the medically indigent.

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Autopsie Nouvelle

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Abstract

In the teaching hospital and elsewhere, the conventional necropsy has been replaced by multiple invasive and noninvasive tests. While this premortem evaluation is not error free, it has relegated the necropsy to situations where death occurs before completing a diagnostic analysis.

Key Word: Autopsy

There has been a decline in necropsy rates over the last four decades. The rates that were 80% in teaching hospitals in the 1940's are down to the 30% to 40% range.[1] A community hospital may have a 4% to 5% incidence of necropsy. Undoubtedly there are hospitals which never perform a necropsy. In the 1940's the quality of the teaching hospital was judged by its necropsy rate. It was one of the gold standards looked at by the prospective house officer. Hospitals competed to have the highest rates. An intern who failed to obtain permission for a necropsy faced his superior with justified apprehension.

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What has happened to the "ultimate consultation?" e the practitioners in teaching hospitals so uncaring, competent and knowledge-resistant that they fail to mulate the housestaff to obtain necropsy permission? there a desire to avoid finding errors? Is malpractice fluencing the rate? Has pathologists' disinterest in the cropsy been transmitted to the clinicians?

The word autopsy comes from the Greek and trans- es to "seeing with your own eyes." It is our contention at the autopsy is still done but before life ceases. The *topsie nouvelle* has replaced the necropsy in most spitals.

It is the combination of invasive and noninvasive ocedures that has created the *autopsie nouvelle*. The nical pathologist has contributed mightily to the nemployment of the autopsy pathologist. The sophisti- ted analysis of the body fluids provides better ante ortem information than was dreamed of 30 years ago. ood alcohol and barbiturate levels are examples of ata not previously readily available. Premortem micro- ology is the preferred method. The fiberoptic endo- ope allows you to "see with your own eyes" great parts the gastrointestinal, genitourinary and respiratory acts. Biopsies can be taken that don't suffer from post- ortem autolysis. The electrical activity of brain and eart obviously cannot be recorded after death. oppler ultrasound and M-mode ultrasound can pro- de information about blood flow and cardiac contrac- ity. The improvement in diagnostic radiology imaging sociated with computed tomography provides cross- ection images demonstrating *in vivo* gross pathology at can be far more dramatic than that seen at autopsy. igure 1A). The information obtained by angiography nd cardiac catheterization was not available 30 years go. Percutaneous biopsy techniques allow histologic udies to augment anatomic information. (Figure 1B). nformation is also obtained by surgical procedures. In uth, much of the credit for the *autopsie nouvelle* must o to the anatomic pathologist. The errors found at ecropsy were the stimulus for the development of oday's diagnostic armamentarium.

The decline of the hospital necropsy may not be ntirely because of substitutes. The fact that the ecropsy is often anatomically incomplete, provides no hysiologic data and the histology suffers from postmor- em changes have long been recognized. Often the ause of death is not a product of the necropsy — and it s not needed. On top of these deficiencies there is the ntipathy of the pathologist to the necropsy. In the med- cal school environment it is not a glamorous assign- nent. We have seen the assignment used as punishment or faculty members. The accomplishment of the ecropsy is not ordinarily done by an experienced athologist — sometimes an advanced resident — some- imes only a junior resident. Sometimes the most expe- ienced person in the room is the nonprofessional ecropsy assistant. The late cutting of the brain, usually t an inconvenient time, has always been a problem.



Figure 1-A
A mass of the right adrenal is seen between the liver and the vertebral body.

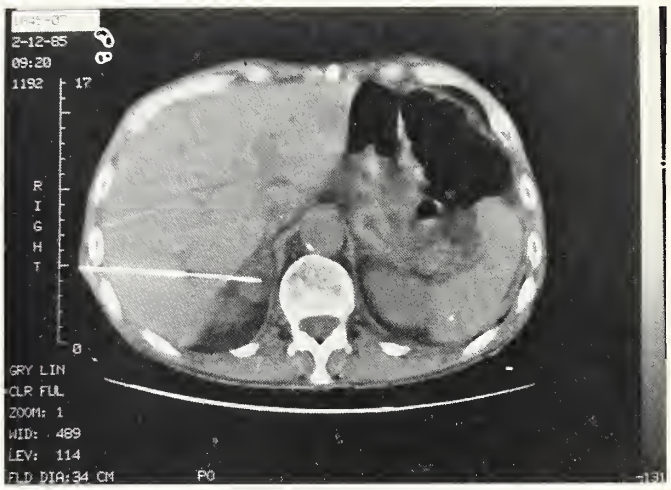


Figure 1-B
Percutaneous biopsy of the right adrenal tumor accomplished with computed tomographic guidance.

The necropsy for those who die suddenly or without thorough diagnostic efforts is still essential. These tend to be coroner controlled and mandated by legal necessity.

What have we given up in transition away from the conventional necropsy? There can be little doubt that we are giving up a quality assurance mechanism.

There are limitations to even the most extensive *autopsie nouvelle*. The diagnostic techniques are not perfect and errors are made. Pulmonary embolism is still often undetected clinically. Necropsy is a check on this. A result of the change is increased expense. Since a necropsy is not anticipated, diagnostic studies may be done that are unlikely to benefit the patients. They do increase the final hospital bill. The advent of cost control measures may change this and create more need for the conventional necropsy.

Somewhat worrisome is the justified accusation "you are burying your mistakes." Considering the malprac-

tice situation at the present time, it would not be surprising if physicians did not want any retrospective analysis of the adequacy of their medical care. It certainly can unconsciously blunt the desire to know. It may be in the future that it will be the patient's lawyer who consoles the family and delicately requests the permission for a necropsy.

It is concluded that we are "seeing with our eyes" better than ever before. The *autopsie nouvelle* is in place and is effective. While it is not perfect, it has become an accepted substitute for the usual hospital necropsy. This trend should generate neither guilt nor exultation. Nor is there a need to cater to those who wish to turn back the clock.

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Mechanical Ventilation:
Weaning Criteria and Methods

J. Ferdinand Fiastro, M.D.
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Abstract

In the weaning of ventilator dependent patients, efficiency is an important objective from both clinical and cost effectiveness standpoints. General medical factors which produce an unstable environment must be corrected prior to weaning initiation. Pulmonary physiologic criteria useful in determining when to initiate weaning are discussed. These include tests of oxygenation, ventilation, and mechanical capability. Two methods of weaning used in practice are described and their merits reviewed.

Key Words: Respirators; Respiratory Insufficiency, Complications, Physiopathology, Therapy

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Introduction

The management of patients on mechanical ventil tors has become an integral part of caring for the cri cally ill. The past twenty years have produced volumes literature on how best to manage these patients, crite for use and discontinuation of mechanical ventilatio various methods of ventilating patients and all the anc lary equipment needed. We feel that the most importa factor in the use of these ventilator techniques is tl need to discontinue their use as soon as possible. Ef ciency in this regard is in the best interest of the patie and in the interest of cost effectiveness. This pap reviews the criteria which usually must be met for wea ing to be successful and the techniques used in weani patients from mechanical ventilation.

Weaning Criteria

1. *General Medical Factors*

When being considered for weaning, the ventilat dependent patient must be able to spontaneously pr duce a ventilatory response capable of meeting h body's metabolic demands. Prior to weaning, therefor a stable metabolic environment is necessary.[1] To this er there are several factors which need to be controlle (Table 1). Nonpulmonary factors that reduce oxyge delivery must be corrected. These include anemi reduced cardiac output, uncontrolled arrhythmia, ar unstable fluid and electrolyte balance. Fever or sep will hinder weaning by increasing O_2 consumption ar CO_2 production. Acid-base disturbances must be nc malized as well. Metabolic alkalosis is especially impc tant, leading to alveolar hypoventilation and atelecta which both result in hypoxemia. The leftward shift of th oxyhemoglobin dissociation curve resulting fro alkalemia impairs tissue oxygen transport. Electroly abnormalities, especially hypokalemia, hypophosphat mia and hypomagnesemia can contribute to respirato failure by affecting respiratory muscle function.[2] Nut tional status should be optimized for the duration mechanical ventilation. There is evidence that diap ragm muscle mass and strength are impaired by maln trition in proportion to the decrease in total bo weight.[3,4] Adequate level of consciousness, cough, ar gag are prerequisites for extubation but are not essenti for weaning to begin.

Table 1

Factors Which Need Correction Prior to Weaning Patients from Mechanical Ventilation

1	Anemia
2	Reduced Cardiac Output
3	Arrhythmia
4	Fluid and Electrolyte Imbalance
5	Sepsis or Fever
6	Acid-base Abnormalities
7	Poor Nutrition
8	Low Level of Consciousness

2. *Pulmonary Physiologic Criteria for Weaning*

When the above clinical factors are corrected, the spiratory system must be able to perform the major nctions of oxygenation and ventilation, and must have fficient mechanical ability to do the work of breathing.

A. *Tests of Oxygenation and Ventilation*

The arterial-alveolar oxygen tension gradient (A-a D_2) is an index of oxygenation capability when the rdiac output is normal. It is reported that weaning will unsuccessful if the A-a DO_2 on 100% oxygen is >350 m Hg.[5] With an A-a DO_2 above this, a high fraction of spired oxygen (FIO_2) will be required to maintain ygenation and there will be little reserve for the usual poxemia resulting from being removed from the ntilator.

Adequate alveolar ventilation can be assessed by easuring the dead space to tidal volume ratio (V_D/V_T). is estimates the amount of the tidal breath which does t contact perfused alveoli. Weaning will usually not be ccessful if V_D/V_T is >0.6 since a high minute ventila- n would be required to adequately ventilate the eoli.[5]

In practice, these criteria are usually met if the PaO_2 is 60, $PaCO_2 < 55$ and $pH > 7.35$ on an $FIO_2 \leq 0.40$.[1,6] The ception to this is the patient who is chronically hyper- rbic prior to respiratory failure. These patients should e at or near their chronic level of $PaCO_2$ before wean- g. If positive end-expiratory pressure (PEEP) has been ilized during mechanical ventilation, it should be ≤ 5 n H_2O with adequate oxygenation before weaning is itiated.

B. *Tests of Mechanical Capability*

The most important tests of mechanical ability are vital pacity (VC) and the maximal inspiratory force (MIF). A C of >10 to 15 cc/kg is necessary for successful wean- g.[5,7] This measurement is affected by the patient's max- al respiratory effort and lung compliance. The MIF $>$ 0 to 25 cm H_2O suggests adequate neuromuscular ility.[8] This should be performed at residual volume if ssible to yield maximal negative pressures, although me prefer the measurement at the functional residual pacity (FRC). The resting minute ventilation (MV) ould be less than 10 liters with a respiratory rate under . The maximal minute ventilation at least double the sting MV is proposed as a measure of mechanical spiratory reserve and is a good predictor of weaning ccess.[9] This test, however, requires significant patient operation.

Work of breathing is defined as the integral of the roduct of the transpulmonary pressure and the ventila- ry volume over time. Henning[10] found that depend- nce on mechanical ventilation was likely when work xceeded 1.7 Kg-m/min. This measurement can be ade during spontaneous respiration without patient operation but requires an esophageal balloon, and is erefore not generally used clinically.

It should be noted that these criteria are not absolute and that many patients with borderline pulmonary function are successfully weaned.

Techniques for Weaning from Mechanical Ventilation

The two major weaning techniques are T-piece or "conventional" and intermittent mandatory ventilation (IMV) weaning. In preparing to wean by either method one should avoid sedating drugs prior to the weaning period. If the weaning process extends for more than a day, the patient should be rested at night on assist control or an IMV rate which requires little patient effort. Weaning should be resumed each morning.

T-Piece Weaning

In T-piece weaning, the patient is suctioned well, placed in an upright position and a T-tube is attached to the airway with a FIO_2 10% higher than the ventilator percentage. The patient is then observed during a trial of spontaneous ventilation. If the patient becomes anxious, develops tachycardia, hypertension or develops signs of respiratory muscle fatigue, the trial is terminated. Otherwise, an arterial blood gas (ABG) is obtained in 30 minutes. If the ABG is adequate ($PaO_2 > 55$, $PaCO_2$ not greater than 10 torr above the pretrial value, and pH not below 7.35) the T-piece trial can be continued. The patient can be extubated after 4 to 24 hours of successful spontaneous breathing. This method is quite adequate for patients who are expected to wean rapidly such as otherwise healthy patients with acute hypoxic respiratory failure.

In patients who have required prolonged ventilatory support or are not expected to wean rapidly, the technique usually requires the patient to be on a T-piece for three to five minutes every 30 minutes to an hour to begin weaning. The period off the ventilator is gradually increased following vital signs and evidence of respiratory muscle fatigue.

The signs of respiratory muscle fatigue have been studied in patients being weaned from mechanical ventilation.[11] These signs are dyspnea, tachypnea, paradoxical movement of the chest and abdomen, an increase in the $PaCO_2$ and terminal fall in the respiratory rate.

IMV Technique of Weaning

In 1973 Downs introduced IMV as an approach to weaning.[12] The recommended method is to set the IMV rate to the same rate as the assist control rate. The rate of IMV is then decreased by two to four breaths per minute every one to two hours as long as spontaneous respiratory effort occurs and pH remains >7.30 in the absence of the previously mentioned signs of respiratory muscle fatigue. A slower reduction in the IMV rate may unnecessarily delay weaning. The ideal IMV system should include circuitry with low resistance and with flow rates sufficient to meet the patient's peak inspiratory flow.[13]

Comparison of T-Piece to IMV

Several studies have been performed to compare the effectiveness of these two methods of weaning.[14-16] These studies have not demonstrated any clear advantage with either method. However, these studies dealt

mainly with patients who were successfully weaned within 24 hours. No appropriately controlled study supports an advantage of either method in patients who have required prolonged ventilatory support. Muscle training is achieved by periods of muscular work alternated with periods of rest. This provides a rationale for the use of the T-piece weaning method in patients who require prolonged weaning. Indeed, there may be a theoretical disadvantage to IMV weaning in that it does not allow the respiratory pump muscles a complete rest period during which they can recover from fatigue.

In summary, a reasonable approach to the use of these methods is as follows:

1. Postoperative patients and medical patients expected to wean quickly and meet the usual criteria for weaning may be weaned by either method.

2. In patients who have borderline weaning criteria, a trial of IMV weaning would be reasonable. If the patient fails the IMV trial, T-piece weaning should be carried out.

3. In patients requiring weaning from long-term mechanical ventilation, T-piece weaning is recommended.

CPAP and Weaning

Many investigators have proposed that positive airway pressure be maintained during weaning. Positive end expiratory pressure (PEEP) or continuous positive airway pressure (CPAP) of 5 cm H_2O increases FRC and PaO_2 compared with T-piece in patients being weaned from mechanical ventilation.[17,19] Positive airway pressure maintains PaO_2 by minimizing alveolar collapse and increasing FRC. This limits the usual increase in A-a DO_2 which occurs with weaning. One study suggested that patients on PEEP 5 cm H_2O had higher VC and MIF compared with those on T-piece.[17] In CPAP systems where positive pressure is maintained constant during the entire respiratory cycle, the inspiratory work of breathing seems to be less compared to T-piece.[19] Most commercially available ventilators are fitted with demand valve systems for delivering CPAP. These vary in their ability to maintain airway pressure and therefore, have a variable effect on the work of breathing.

Summary

Weaning from mechanical ventilation is critical in the management of respiratory failure. A stable metabolic environment and correction of the factors which have caused respiratory failure are essential. When certain physiologic criteria are met regarding oxygenation, ventilation, and mechanical ability of the respiratory system, the patient can be weaned by several techniques. By correctly applying these techniques, weaning will be accomplished most efficiently.

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New Neurosurgical Techniques in the Treatment of Intractable Pain

Robert P. Iacono, M.D.

Abstract

Innovative neurosurgical techniques for chronic pai relief promise high efficacy and low risk. For cancer pai intrasellar injection of alcohol results in excellent lon term control of pain due to disseminated metastase Effects may be related to changes in CSF peptides. Whe appropriate, the intraspinal delivery of narcotics v

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planted catheters and reservoirs is safe, can be tiated at the bedside, does not affect consciousness, d precludes the need for other narcotics. For treatent of tic douloureux, percutaneous injection of glyrol into the trigeminal cistern is well tolerated, associated with sensory deficits and provides up to % of patients with relief. Pain secondary to peripheral rve injury, myelopathy, "failed back syndrome" and wer limb ischemia can often be controlled with percuneously inserted spinal stimulators. For treatment of tients with deafferentation pain due to paraplegia, rpes zoster, brachial plexus avulsion and amputation, inal dorsal root entry zone lesions (DREZ) can be made d have produced good results.

Key Words: Pain, Cancer, Deafferentation, DREZ, traspinal Narcotics, DCS, Glycerol, Neurosurgery, ypophysectomy

troduction

Chronic pain is often severe and unmanageable by edical treatment alone. A number of promising neurorgical procedures have been described within the last) years. These innovations, based on a new understandg of the neurophysiologic and neurochemical basis of ensory transmission and pain etiologies, are technically mple, carry low risks and produce minimal neurologic eficits. They are often effective in the treatment of ancer pain, common benign pain syndromes and cenal deafferentation pain. They include administration of ntraspinal narcotics, chemical hypophysectomy, retroasserian glycerol injection, percutaneous dorsal olumn stimulation and the creating of lesions in the orsal root entry zone of the spinal cord.

Cancer Pain

ntrasellar Injection of Absolute Alcohol

In 1963, Morica introduced alcohol injection of the ypophysis as a nontraumatic method to control the ain of cancer metastasis.[1] This was an outgrowth of revious efforts to control hormone dependent tumors y transcranial or transphenoidal removal of the pituiary. The results, however, were found to be independnt of tumor regression and were effective with other netastatic tumors.[2] Because percutaneous chemical ypophysectomy is easily performed, relatively safe and nexpensive, it has been widely employed. It is carried ut under light general anesthesia, using a transnasal pproach with an 18-gauge needle and C-arm fluoroscopic control. Keeping true to the midline, the needle is apped through the sphenoid sinus and floor of the sella urcica until its point lies just anterior to the posterior linoid process. (See Figure 1). A small amount of metrizamide can be injected to confirm the position of the needle and absolute alcohol is then injected in 0.1 ml ncrements. A total of 2.0 ml is rarely exceeded. Pain relief is usually attained within 48 hours.

Morica reported that of 687 patients with metastatic disease from a variety of primary tumor sites who received this treatment, 605 gained complete and long lasting relief. Generally, approximately 85% of patients with prostate or breast metastasis, as well as 65% to 70%

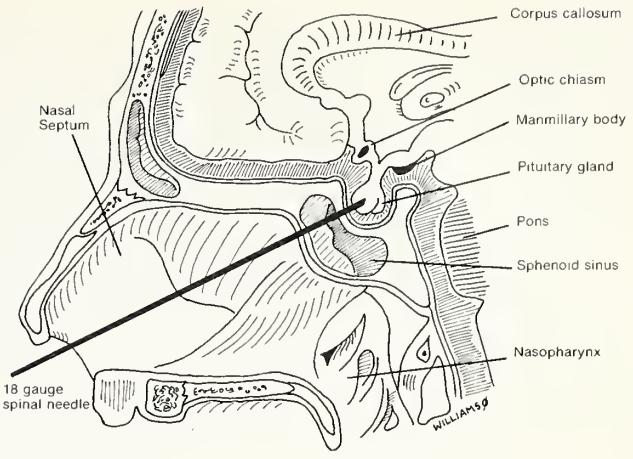


Figure 1
Mid-saggital view of head showing trajectory of needle for percutaneous chemical hypophysectomy for treatment of pain due to metastatic cancer.

of those with nonhormone dependent tumors, experience good relief. Bony metastatic pain responds best. Complications include hypopituitarism requiring replacement therapy, CSF rhinorrhea, ptosis, and diplopia. Operative mortality is reported in the range of 3% to 5%.[2] The mechanism for such pain relief remains obscure. If metrizamide is injected with the alcohol, it can be visualized in the third ventricle. Thus, some believe that damage to the hypothalamus is responsible. Transient diabetes insipidus usually occurs following the procedure and is an indicator that pain relief will be forthcoming; which also suggests that the relief is due to a change in hypothalamic function. Recent evidence indicates that significant elevations of ACTH and TRH in CSF are continuously induced by pituitary neuradenolysis. ACTH increases are correlated with complete pain relief. Suppressed pituitary function does not correlate with pain relief, although hormone dependent cancer pain is more frequently relieved.[3]

Intraspinal Narcotic Delivery

In treating intractable pain of malignant origin, conventional techniques such as cordotomy or multiple rhizotomies are often of limited usefulness when the areas involved are bilateral or extensive. These and other radical procedures are also sometimes contraindicated by the poor condition of the patients. In such cases, the use of intrathecal and epidural narcotics is a tremendous asset. The technique is easy and can be applied in situations where more destructive procedures are undesirable or inappropriate. Direct application of opiates to the CNS, for example, can be carried out at the bedside via percutaneously inserted lumbar catheters and is highly effective. Pain relief occurs with little blunting of the patient's level of consciousness; sensation is preserved and there is no sympathetic blockade. Furthermore, infusion of spinal opiates may significantly reduce or obviate the need for parenteral or oral narcotics.

The first controlled study of intraspinal opiate analgesic efficacy in humans was carried out by Wang in

1978.[4] Since then, numerous techniques have been employed and have gained wide acceptance. A standard epidural spinal anaesthesia kit can be used to percutaneously insert a catheter through a Tuohy needle in the lumbar region. This is used for a trial or temporarily up to five days. For more extended periods, the same system can be implanted under sterile conditions in the operating room. Under local anaesthesia a small incision is made in the mid-lumbar area and the catheter inserted. Its free end is then passed laterally through a subcutaneous tunnel, brought out through the skin and connected to a heparin-lock, injectable cap. The catheter can easily be injected at home by the patient or relative and used for several weeks. More durable catheters designed for lumboperitoneal shunts can be similarly employed and connected to a subcutaneous reservoir for chronic percutaneous injection (See Figure 2). Initially, 2 to 4 mg of preservative-free morphine can totally relieve lower extremity, pelvic or chest pain for up to 12 hours.[5] For patients known to respond, and with anticipated long survival, a self-contained reservoir/pump system can be implanted for chronic, continuous low dose infusion.[6] The device contains a drug chamber within an internal metal bellows and a propellant chamber containing a fluorocarbon. At normal body temperature the propellant exerts a 428 mm Hg pressure on the bellows, forcing the drug through an adjustable flow restrictor tube and into the intraspinal catheter. It is easily adjusted and refilled percutaneously.

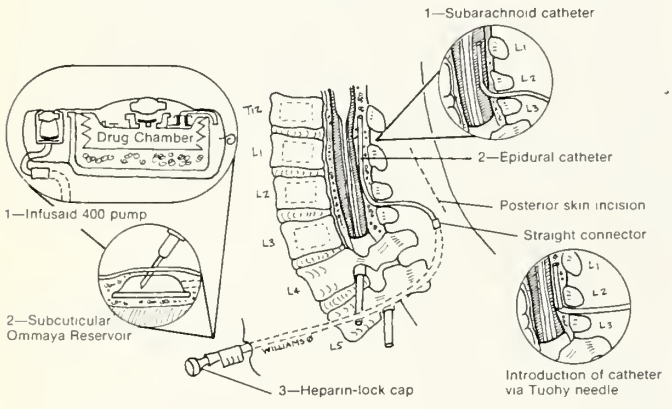


Figure 2
Methods for delivery of intraspinal opiates for cancer pain control. Note epidural or intrathecal placement. Self-contained pump may be refilled monthly.

Infusion of intraspinal narcotics is rarely associated with urinary retention or pruritus in previously narcotic habituated cancer patients.[4] Respiratory depression is easily reversed by intravenous naloxone, which, however, does not alter the analgesic effect of the spinal narcotic, implying that the two are mediated by different CNS axis receptors or receptor binding affinities. When adequate analgesia is supplied by the spinal drug, systemic narcotics can be withdrawn, withdrawal symptoms being treated with clonidine and/or intravenou narcotic.

The opiates used are pure or partial agonists of th receptors found in the spinal dorsal horns.[7,8] Since the must diffuse through neural tissue (and, in the case c epidural application, the dura mater) the lipid solubil ties of the drugs determine the rate of onset of analgesi Differences in receptor binding affinities affect th intensity and duration of pain relief.[8]

Benign Pain

Percutaneous Retrogasserian Glycerol Injection as Treatment of Tic Douloureux

Most patients suffering from trigeminal neuralgia ca be managed on Tegretol or Dilantin. When medica therapy is inadequate or not tolerated, options hav included posterior fossa exploration with microvascula decompression or radiofrequency rhizotomy. Howeve it was recently discovered that injection of glycerol ma completely abolish typical tic pain while producing min imal hypesthesia.[9] Since serious sensory deficits, particu larly corneal anaesthesia, are not produced, thi technique is superior to differential thermocoagulatio of the trigeminal root. Because it is accomplished unde local anaesthesia, it is indicated in elderly patients c others unable to undergo major surgery such as poste rior fossa exploration with microvascular decompres sion (Jannetta's procedure).

The technique is accomplished under C-arm fluoros copic guidance with anaesthesia support. After local 1% lidocaine infiltration, a 20-gauge spinal needle i inserted through the cheek, 2 cm lateral to the corner c the mouth, and directed medially and posteriorly to pas through the foramen ovale and puncture the trigemina cistern so that CSF escapes. Lateral fluoroscopy shoul show the needle tip at the level of the clivus, and 0.5 cc c metrizamide may be introduced to confirm an intracis ternal position. The patient is brought from the supine t the sitting position, the metrizamide is evacuated and 0. to 0.4 ml of glycerol is injected. This is well tolerated. Th patient can be discharged on the first postoperative da and prior medication tapered.

Most patients cannot detect any significant sensor change, and are relieved of their painful paroxysm shortly after injection. Hakanson reported a series of 10 patients so treated with 96% obtaining satisfactor relief.[9] Twelve percent, however, required a secon injection and another 19% required drug therapy (mea follow-up was 5 years). Lunsford reported 62 patients o whom 66% were pain free and off medication approxi mately one year at follow-up.[10] Reduced cornea response, trigeminal motor weakness and anaesthesi dolorosa did not occur. Experimental studies in the ca showed that the trigeminal evoked potential was unal tered following retrogasserian injections of glycero while histological studies have disclosed myelin degen eration and axonal swelling in nerves injected with gly cerol.[10] It is possible that the segmentally demyelinate axons which are thought to constitute the trigger mech anism of tic pain, may be selectively susceptible to th

ild toxic effects of glycerol.

ercutaneous Spinal Stimulation

Spinal epidural stimulation for pain relief was first troduced as "dorsal column stimulation," based on e well-known "gate-control theory" of Melzack and all. Flat electrodes were placed over the spinal cord llowing laminectomy. Currently, flexible wire elec-odes are inserted percutaneously for stimulation of inal cord or roots. The procedure is especially effec-ve for neurogenic pain of peripheral nerve injuries, ostoperative or post-traumatic neuralgia, pain of mye-pathy or multiple sclerosis and patients suffering failed back" syndrome with leg pain.[11] It is ineffective r solely nociceptive or visceral pain, pain of malignant rigin or low back pain without sciatic radiation. How-ver, some patients with phantom limb pain or pain due vascular insufficiency in the lower limb achieve relief ith this method.

Electrode implantation is carried out in the operating om with local anaesthesia using x-ray guidance. Tuohy eedles are used for a lumbar epidural puncture and exible electrodes are either advanced to the midline r bilateral pain or placed homolaterally for unilateral ain. They are connected to the stimulating system and ials carried out, adjusting the electrode position, until araesthesiae are felt in the painful area of the body. The atient will note a pleasant, warm, tingling sensation and ften report immediate pain relief. The stimulation gen-rator or radio receiver is then implanted in a conve-ient location for later transcutaneous electromagnetic oupling.

In general, acceptable results are obtained in about 0% of patients. Failure to obtain lasting relief usually llows inability to achieve stimulation referred to the ainful area. The mechanism of pain relief by spinal timulation is not well understood, and experimental esults are contradictory. It is theorized that perhaps ibers of the dorsal-lateral funiculus, responsible for des-ending supra-spinal pain suppression, are stimulated. Alternatively, since spinal stimulation can be effective ollowing cordotomy, it may interfere with afferent mpulses at the thalamic level.[12]

Central and Deafferentation Pain: DREZ

The origin of pain due to deafferentation is not clear, ut loss of sensory input is known to result in physical hanges within the CNS. A hypersensitivity develops within the spinal sensory neurons which may become utonomous from inhibitory control. Examples of this ype of pain include the pain of brachial plexus avulsion, araplegia, phantom limb pain and the pain following erpes zoster. These syndromes are characterized by ntractable dysaesthesia and loss of sensation and are all articularly resistant to medical therapies. Patients with hese and other forms of deafferentation pain are best reated with Nashold's DREZ procedure.[13] DREZ is acro-nymic for the surgical procedure of placing lesions within the *dorsal root entry zone* of the spinal cord, comprising the substantia gelatinosa of the dorsal horn and the overlying tract of Lissauer. It is believed that here there is a convergence and integration of sensory input from many spinal levels and that partially disconnected neurons in this area generate the aberrant signals experienced as pain.[14] The dorsal root entry zone extends throughout the entire length of the spinal cord and into the brain stem, as the spinal trigeminal nucleus.

The segments of the spinal cord corresponding to the affected dermatomes are surgically exposed using intraoperative somatosensory evoked potentials and direct cord recording to aid localization. Using the operating microscope and a 0.25 mm diameter thermocoupled electrode radiofrequency, thermal lesions are then placed contiguously into the DREZ of the involved ipsilateral spinal segments (See Figure 3).

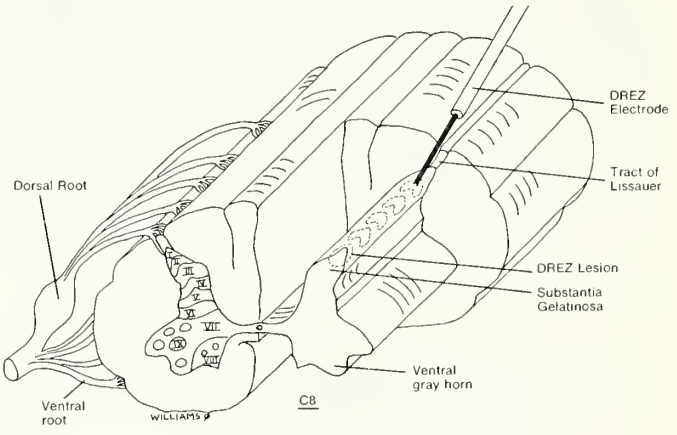


Figure 3
Placement of radiofrequency thermal-controlled lesions within the spinal dorsal root entry zone for deafferentation pain syndromes. The lesion extends from the tract of Lissauer to Rexed lamina five.

The DREZ operation has best results in patients treated for brachial plexus avulsion pain. This injury is relatively common, most often related to motorcycle accidents. Approximately 20% of patients with avulsion will develop intractable pain. All other forms of treatment have had unspectacular results, or are associated with significant side effects such as those seen with cordotomy and mesencephalotomy.[15] Nashold, however, has reported 66% long-term relief following the DREZ procedure for this problem with the period of follow-up now being five years.

Paraplegics often develop persistent, diffuse, burning pain distal to the level of cord transection. This occurs in 5% to 10% of spinal cord and cauda equina injuries.[13] Medical therapy, rhizotomy, cordotomy, dorsal column stimulation and other techniques are of little benefit. Pain relief following DREZ in this group is attained in 55% of patients on five year follow-up.[16]

For post-amputation pain the DREZ procedure can be employed, but with some reservation. Twenty-two patients have been evaluated with the overall "cure" rate being 36%.[14] However, those patients also having nerve root avulsion showed an 83% response; those with phantom pain alone (without associated stump pain)

showed a 67% response.[17] Thus, the DREZ procedure has a limited, but definite, place in the treatment of post-amputation pain.

Good results have also been obtained using the DREZ procedure for post-herpetic pain. Approximately 50% of these patients have attained excellent relief.[13]

The mechanism of relief following the DREZ procedure remains speculative. However, the long-term reduction in pain in these patient groups implies that the dorsal root entry zone may be the site of the origin of the pain.

Conclusion

These approaches can significantly improve the quality of life in a number of patients who otherwise have no alternative but to continue suffering from their pain syndromes. They may be instituted at minimum risk and morbidity to the patient. Ongoing and future research will hopefully lead to a better understanding of endogenous pain inhibitory systems and the optimal therapy for the extended chronic pain population. Until this goal is achieved, neurosurgical efforts will continue to be aimed at optimizing current techniques for pain control or eradication.

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Outpatient Cerebral Angiography

A Prospective Study of Fifty Patients

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Abstract

During a six month period, fifty consecutive patient were prospectively studied to assess the safety, cost effectiveness, quality, and patient acceptance of outpa tient cerebral intra-arterial digital subtractio angiography (IADSA). Our results indicate that hig quality cerebral angiography can be performed safel on an outpatient basis and that routine post angiography hospitalization is unnecessary and greatl increases the overall cost. Patient response was exceller and most preferred the convenience and comfort c returning home after the examination versus overnigh observation.

Key Words: Cerebral Angiography, Outpatient Angi ography, Digital Subtraction Angiography

Introduction

Intravenous digital subtraction angiography (IVDSA was developed at our institution[1] as a relatively saf screening procedure for possible carotid or vertebrob asilar stenoses as well as other extracranial or intracrania vascular abnormalities. However, in those patients wh present clinically with transient ischemic attacks (TIA's or minor strokes, conventional cerebral angiograph (CCA) is the first procedure choice because of its greate sensitivity and accuracy; and because precise evaluatio of the extracranial and intracranial vessels is necessary i order to make sound patient management decisions Although associated with a low complication rate whe performed by experienced angiographers, CCA is a invasive procedure and in most institutions the patient i hospitalized overnight for observation following th examination. Due to the increasing necessity of cos containment and more effective resource utilizatio there is increasing interest in the alternative of outpa

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ent CCA.[2-8] Recent advances in DSA and catheter technology have made it possible to perform intra-arterial igital subtraction angiography (IADSA) rather than CA, using smaller catheters and smaller doses of contrast medium. This may decrease angiographic morbidity and complications, thus eliminating the rationale for xtended inpatient observation. We have initiated an ngoing prospective study to evaluate the feasibility, afety, cost, and other ramifications of cerebral IADSA, nd report the results of our first fifty consecutive atients.

Methods

The examination is initially explained to the patient by he referring physician. The patient reports to the radiology department on the morning of the examination aving limited the morning intake to clear liquids. At this me, the procedure is again fully explained and a consent form is signed. Sedation (2.5 - 10 mgs IV Valium) is sed only in anxious individuals. Atropine (0.4 mgs.) is iven I.M. by some angiographers participating in the tudy.

Using standard angiographic technique, 4.0 French igtail catheters are used to perform arch aortography, nd 4.5-5.0 French preshaped catheters are utilized for elective carotid and vertebral angiography. All studies re performed using the DSA laboratory developed at he University of Arizona Medical Center. Selected mages are recorded permanently on radiographic film.

Following the examination, hemostatis is established vith ten minutes of manual compression at the puncture ite after which the patient is placed in an observation rea for four hours. If no untoward effects are encountered during this time, the patient is released and taken ome by a relative or friend. The patient is carefully nstructed as to possible complications and told to eturn to the emergency room or to contact the angiographer if any problems develop. The patient is contacted by phone 24 hours after the procedure to obtain ollow-up.

Image quality and patient tolerance were graded from excellent to poor using the criteria listed in Table 1.

Results

Fifty patients underwent outpatient IADSA over a six-month period from August 1984 to January 1985. There were 34 males and 16 females with an average age of 62 years (range 23 to 81). Examinations were performed to evaluate TIA's in 47, intracranial aneurysm in two, and suspected AVM in one case. Thirty-three patients received no premedication while IV Valium was administered in 12 and I.M. Atropine in five.

Catheterization was performed through the femoral artery in 48 patients including two graft punctures using a Cordis sheath. The axillary approach was used in the other two patients. Small catheters (4.0 to 5.0 French) were used in all cases except three instances where a larger catheter (6.0 to 6.5 French) was required. Arch aortography and additional selective injections of the common carotid and subclavian arteries were performed in 27 patients, arch injections only in 18, and selective catheterizations without arch aortography were done in five patients. Arch injections only (using several different projections to show the carotid bifurcations and vertebral arteries) were done in six cases because technical difficulties, such as severe iliac or aortic stenosis or tortuosity, precluded selective common carotid artery catheterization with the small catheters. In the other 12, the arch injections were done electively and were of such good quality that selective studies were unnecessary.

Table 1

Grading Criteria

Examination Quality

Excellent	=	Equal to or better than selective CCA
Good	=	Diagnostic study with nonsignificant image compromise
Fair	=	Diagnostic study with significant image compromise
Poor	=	Non-diagnostic study

Patient Acceptance

Excellent	=	Little or no discomfort during exam
Good	=	Some discomfort (mild burning sensation during contrast injection or joint or back pain from lying on the table)
Fair	=	Significant discomfort (more than usually noted with CCA)
Poor	=	Intolerable discomfort

The 18 arch only studies (generally with four to five injections) required an average catheterization time (vessel puncture to catheter removal) of 52 minutes and a total angiographic suite utilization time of 82 minutes. In the other 32 patients where arch and selective injections or selective injections only were performed, the time of the procedure was lengthened with an average of 81 and 111 minutes respectively. The quality of the examinations and patient acceptance using our long-term experiences with selective CCA as a standard are tabulated in Table 2. Quality of visualization of the extracranial and proximal intracranial vessels was graded excellent or good in 83% of the arch only studies. In 97% of the selective IADSA studies, there was excellent or good visualization of extracranial and intracranial arteries (Figure 1). Two of the arch only IADSA studies were performed because selective catheterization could not be performed during CCA. Diagnostic studies were obtained in both of these patients, one of excellent and the other of good quality. In no case was it necessary to perform CCA because IADSA did not provide adequate information. In all patients the acceptance of the procedure was graded as excellent or good. In fact, many

Table 2

			Excellent	Good	Fair	Poor
Exam Quality:	Arch only	(18)	8 (44%)	7 (39%)	3 (17%)	0
	Other	(32)	25 (78%)	6 (19%)	1 (3%)	0
Patient Acceptance:	Arch only	(18)	14 (78%)	4 (22%)	0	0
	Other	(32)	23 (72%)	9 (28%)	0	0

patients who had prior CCA remarked that the present procedure was much easier and more comfortable than their previous exam.



Figure 1-A
Arch injection with RPO projection. Representative IADSA arch injection clearly shows the brachiocephalic vessels. Note the calcified plaque producing stenosis of the right proximal internal carotid artery (arrowhead).

Two patients in our series developed unusual CNS symptoms during the observation period following catheter removal and required hospitalization for observation. In the first, two episodes of left-sided weakness lasting approximately 10 to 15 minutes occurred at 10 minutes and again at 2 hours after the examination. After careful history, physical examination, and discussion with the patient's relatives, the neurology staff concluded that these symptoms, as well as those which



Figure 1-B
A lateral neck projection during a left common carotid artery injection in the same patient shows a mild-moderate stenosis of the origin of the internal carotid artery (arrowhead). Also note the mild atherosclerotic plaque in the carotid siphon (arrow).

prompted the IADSA in the first place, had been staged for apparent medicolegal secondary gain. A second patient became agitated and disoriented for several hours beginning about ten minutes after the procedure. This patient was also evaluated by the neurology staff who felt this was probably a functional problem not directly related to the IADSA. However, we cannot

xclude that this may have represented an idiosyncratic NS reaction to intra-arterial contrast. Both patients re-overed fully within 24 hours and had no long-term equelae. In those 48 patients released after the initial bservation period, no delayed complications (bleed-ng, hematoma, limb ischemia, etc.) occurred.

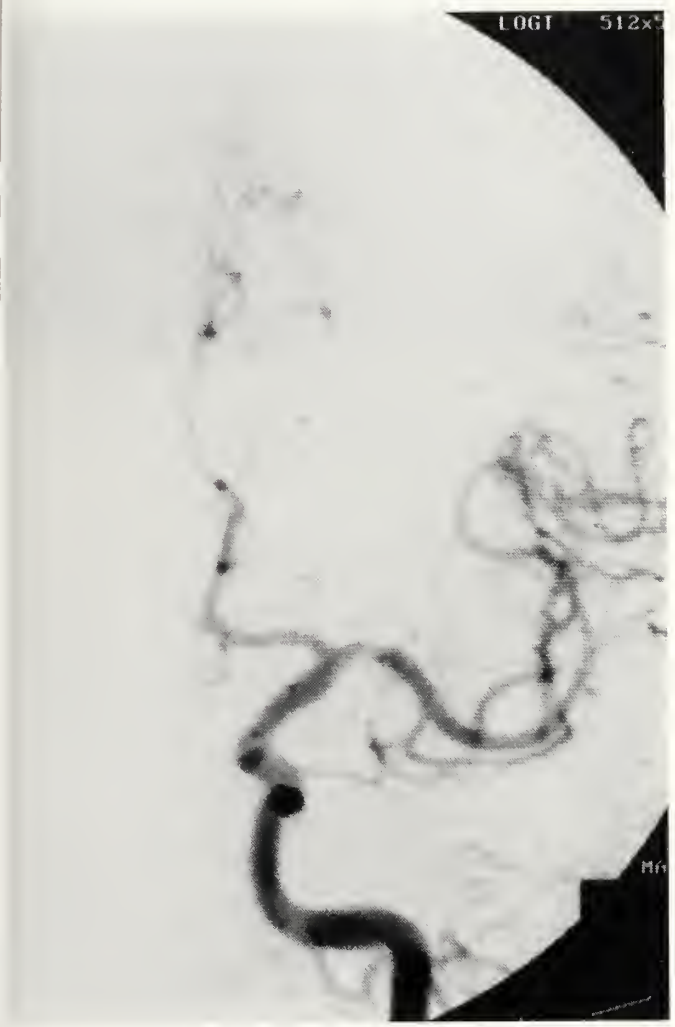


Figure 1-C
Left common carotid injection with AP intracranial projection. The branches of the anterior and middle cerebral arteries are clearly identified.

Discussion

The concept of outpatient angiography was reported in 1975 by Giustra and Killoran and has been performed in some institutions since 1969.[2,3] However, this practice has not gained widespread acceptance due to a combination of fear of post-procedural complications, medicolegal implications, and lack of incentive to change. Further, a recent major textbook of angiography still recommends close observation for 12 to 24 hours and does not mention outpatient management as an alternative.[9] The growing necessity of cost-containment, however, as well as the recent availability of digital subtraction technology, have made outpatient management of angiography, interventional procedures, and cardiac catheterizations particularly attractive.[3-8]

The results of our study indicate that high-quality IADSA examinations of the aortocervicocerebral vessels can be safely performed on an outpatient basis. All of our studies were of diagnostic quality and graded as excellent or good in 92%. All patients tolerated the procedure well and we feel with less discomfort than would have occurred with CCA. In addition, patients preferred the comfort and convenience of returning home following the procedure as opposed to overnight hospitalization.

Two post-procedural CNS events did occur in our series which required hospitalization, although they were not felt to represent clear-cut angiographic complications and resulted in no long-term sequele. No significant local complications (bleeding, hematoma, arterial damage at the puncture site) were encountered, which we feel reflects the routine use of small catheters. Further, no delayed complications were noted following patient discharge which indicates that in most instances a four hour observation period is sufficient.

An assessment of cost savings is part of the ongoing study and has not yet been compiled. However, the minimum cost of overnight hospitalization in a semi-private room at our institution is $200. This would result in at least $9,600 cost decrease for our 48 cerebral IADSA studies managed as outpatients.

Recent articles have encouraged a more widespread adoption of outpatient angiography. Our study not only corroborates this contention, but also emphasizes the advantages of IADSA in this setting. IADSA allowed utilization of small caliber catheters which most would agree are safer (at least in regards to local complications). Further, the decreased concentration and volume of contrast medium when compared to CCA was a main contributor to diminishing patient discomfort during the examination. A significant advantage of IADSA was recognized in those cases where selective catheterization could not be performed because of technical difficulties. In these instances, IADSA using only arch injections to assess the extracranial and intracranial arteries was diagnostic in all cases, whereas CCA would have been non-diagnostic in many instances.

In summary, outpatient cerebral IADSA is a safe, well-tolerated, cost-effective alternative to CCA. IADSA contributes significantly to patient comfort and allows the option of diagnostic studies with simple arch injections when selective catheterization is not possible, or not desired.

Acknowledgement

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Early Experience with an Implantable Reservoir for Intravenous Chemotherapy

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Advances in the field of systemic chemotherapy for malignancy challenge the surgeon to provide a practical, reliable and safe mode of vascular access in order to infuse these potent medications. The indwelling Hickman silastic catheter has become the most commonly applied technology. However, this device is prone to thrombosis and infection which interrupts treatment and imposes an additional stress on these immunologically compromised patients. Furthermore, a daily maintenance ritual requires that the patient is able to assist with his own care.

Several systems utilizing a silastic catheter attached to an implantable reservoir have become available. Over the past two years, we have implanted twenty of these devices (Port-A-Cath™, Pharmacia) in patients requiring venous access for chemotherapy at the University of Arizona Health Sciences Center and the Tucson Veterans Administration Medical Center. It is the purpose of this report to describe the operative technique and our early results with these twenty reservoir implants.

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Patients and Methods

Nineteen patients underwent twenty reservoi implants between August 1983 and December 198 There were eleven males and eight females with a mea age of 51.9 (12 to 70) years. All but one patient had diagnosed malignancy (Table 1). The one patient with out malignancy had cystic fibrosis. Fifteen patients (79% had undergone prior chemotherapy. Two patients ha prior surgery for venous access: Hickman cathete placement in one, and a Hickman catheter placemen followed later by a reservoir implant in the other.

Table 1
Diagnoses

Carcinoma	
Lung	5
Breast	4
Thyroid	1
Prostate	1
Retroperitoneal	1
Germ Cell	1
Melanoma	1
Larynx	1
Leukemia	1
Lymphoma	2
Cystic Fibrosis	1

All patients underwent placement of venous reservoirs by the technique described below. One patient underwent placement of a second device ten weeks following removal of the first one.

All classes of antineoplastic drugs, antibiotics, blood products, analgesics and intravenous fluids were infused through the devices. Patients were followed from the time of implant until device removal or until death occurred.

Description of Device

The Port-A-Cath™ reservoir consists of a small stainless steel chamber which is covered by a silicone rubber septum (Figure 1). The septum allows entry into the chamber with a Huber point needle, specifically designed to avoid damage to the septum. A stainless steel locking ring connects the silastic catheter to the port of the reservoir and ensures a secure fit. A segment of silastic catheter, which ultimately is positioned into the vein, is included with the implant kit.

Operative Technique

The ideal location for implantation of the reservoir is the chest wall. In those patients with prior chest wall irradiation, a site outside of the radiated field is chosen for implantation. Sixteen devices were inserted under local anesthesia, and four devices were placed using general endotracheal anesthesia. The subclavian or internal jugular vein may be used for access to the super-

or vena cava. The venous entry point of the catheter was through the subclavian vein in 17 cases (85%) and through the internal jugular vein in three (15%).

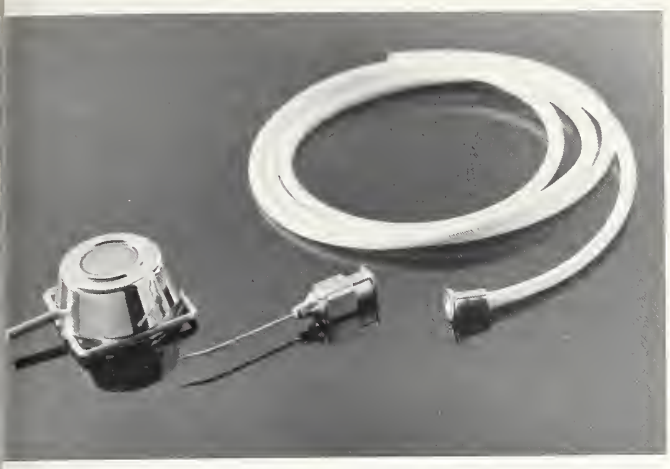


Figure 1
The Port-A-Cath™ reservoir with silastic catheter, locking ring, and Huber needle.

A 4 cm infraclavicular incision is made lateral to the mid-clavicular line. A subcutaneous pocket, large enough to comfortably house the reservoir, is then created above the pectoralis major fascia. Meticulous hemostasis within the subcutaneous pocket must be achieved to avoid any hematoma postoperatively.

With the patient in the Trendelenburg position, the subclavian vein is then cannulated with a long 16 gauge needle in the standard fashion for subclavian line placement. The needle is directed through the open skin incision so that no skin puncture occurs. The syringe is removed and a J-wire is passed through the needle into the superior vena cava. The needle is then removed and a vessel dilator with an outer catheter introducer sheath is passed over the wire into the vein, according to the technique of Cohen.[1] The J-wire is removed and a syringe is attached to the vessel dilator in order to aspirate blood, ensuring its position in the vein. A segment of silastic tubing which comes with the reservoir is then measured to extend from the reservoir port to the superior vena cava. The tubing is cut to length and attached to the port of the reservoir. Heparin-saline solution (10 u/cc) is used to irrigate the reservoir and catheter by puncturing the silicone septum of the reservoir with the Huber point needle (which comes with the Port-A-Cath™). The reservoir is positioned in the subcutaneous pocket. The vessel dilator is withdrawn from the Teflon sheath and the silastic catheter is passed through the sheath into the subclavian vein. The entire catheter should be passed through the Teflon sheath without leaving a redundant loop. The Teflon sheath is then carefully peeled away leaving the silastic catheter in place (Figure 2). The silastic catheter is secured to the reservoir with the locking ring. Central venous position of the silastic catheter must be assured by withdrawing blood back through the venous reservoir, and by verifying catheter position within the right atrium or superior vena cava with a portable intraoperative AP chest x-ray. Heparin-saline solution should be instilled through the reservoir and catheter to irrigate any residual blood from the system. Once the position of the catheter is verified, the reservoir may then be sutured to the pectoralis fascia with a nonabsorbable suture. Local antibiotic solution is used to irrigate the subcutaneous pocket and closure is accomplished with a single layer of subcuticular absorbable suture.

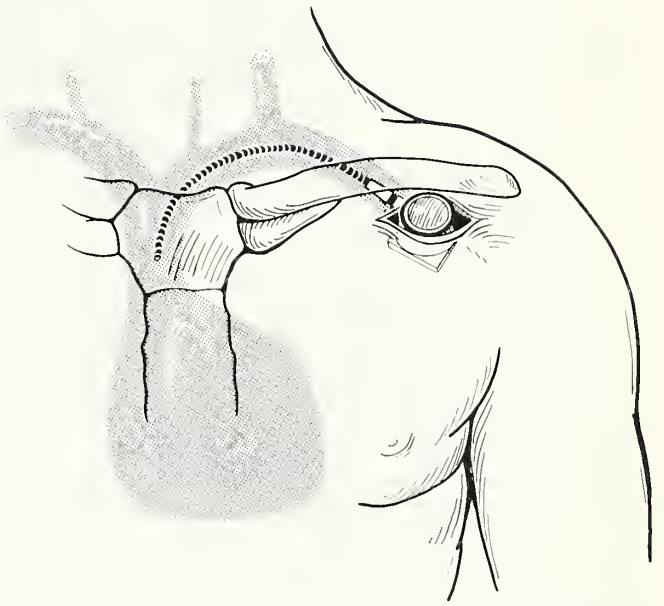


Figure 2
The Port-A-Cath™ positioned in the subcutaneous pocket.

The device may be used for chemotherapy infusion immediately following surgery. The technique for percutaneous needle puncture of the reservoir is quite simple and is routinely managed by nursing personnel. The skin over the device is liberally prepared with alcohol and Povidone-Iodine solution. A sterile Huber needle is used to puncture the skin and pass through the silicone membrane into the reservoir chamber (Figure 3). After confirmation of entry into the chamber by blood withdrawal, a sterile infusion tubing is attached to the needle for delivery of the chemotherapeutic agent. Following each use, the reservoir and catheter are flushed with 2 ml (2000u) sterile Heparin solution to reduce the likelihood of thrombus formation.

Results

All reservoirs were implanted easily with either local or general anesthesia. Three patients died within thirty days following surgery; however, all deaths were related to unrelenting progression of their malignancies and not to surgical complications.

There was only one intraoperative complication. A pneumothorax was recognized on the intraoperative post-placement chest film, and this was treated with a tube thoracostomy for two days.

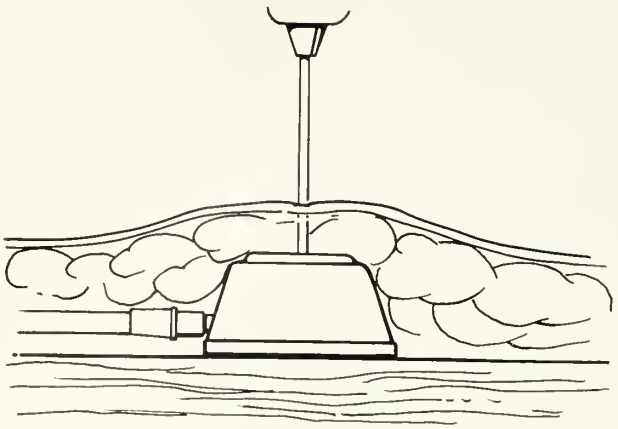


Figure 3
Access to the device with a Huber needle.

Three complications occurred during the follow-up period, two of these requiring Port-A-Cath™ removal. One device was removed after 22 days because of an apparent infection in the subcutaneous tissue near the device in a patient with acute myelogenous leukemia. A second device was removed 72 days after implantation because of a presumed leak in the silastic catheter. The problem produced infiltration of vinblastine in the subcutaneous tissue causing subsequent skin slough. However, no leak could be demonstrated when the device was removed. One patient presented with a seroma surrounding the reservoir. The seroma was aspirated on one occasion, culture results were negative and the seroma has not recurred.

Nine patients died from 3 to 237 days (mean 112) after surgery. All deaths were attributable to progression of the patients' metastatic disease. In each case, the reservoir was functioning well at the time of death.

Eight patients are alive with functioning devices. They have been followed from 57 to 333 days after surgery, with a mean of 195 days. One patient was lost to follow-up sixty days following a successful implant.

Discussion

The provision of convenient access to the central venous system for infusion therapy has become an important surgical service in view of the widespread use of chemotherapy for malignancies. The perfect delivery system should be easy to implant, non-thrombogenic, noninfective, and provide the maximum in patient comfort and an easy route for administration of medications.

The Broviac catheter was one of the first steps toward this goal.[2] Although it was initially designed for those patients with "short-gut syndrome" who needed chronic parenteral nutrition, it was subsequently adapted for use in delivering chemotherapy. The drawback of the Broviac catheter is the small internal lumen diameter which makes it difficult to withdraw blood from the catheter.

In 1979, Hickman, et al. published their results with a larger internal diameter catheter constructed from the same polymeric silicone.[3] This catheter not only enable infusion of chemotherapeutic agents, but allowed fre quent blood withdrawal to monitor responses to th therapeutic regime. Although the Hickman catheter i commonly used today, a daily maintenance regimen i required to prevent thrombosis and to reduce infectio at the skin exit site. The problem of infection and it propensity to advance down the catheter to cause sys temic sepsis has been well documented.[2-5]

In 1982, Gyves, et al. reported their results with twent implantable reservoirs for intravenous chemotherapy i patients with cancer.[6] They reported no infections, how ever, five small-bore catheters became occluded. Whe other reservoirs were implanted with large-bore cathe ters, none of eighteen catheters thrombosed.

In our series of twenty Port-A-Cath™ implants, eac was readily accomplished under local anesthesia. Th one operative complication, a pneumothorax, is a smal risk which is to be anticipated with any central lin placement by needle puncture technique and is no specific to the Port-A-Cath™ itself. The method fo catheter placement by cephalic vein cutdown as des cribed by Heimbach,[7] should eliminate this complica tion. However, the cephalic vein has often bee sclerosed from prior chemotherapy, leaving no route fo access to the central veins. Increasing experience wit the catheter introducer technique will minimize thi problem.

There were no episodes of reservoir/catheter throm bosis in any of our patients, even though they were a high risk for thrombosis because of malignancy. Thi may be related to the larger internal diameter (1.02 mm of the Port-A-Cath™ device, as compared with th smaller lumen used in other series.[6]

The implanted systems were all readily accepted b our patients who were not burdened by a home car regimen, since the entire device is buried under th skin. Nurses dealing with outpatient therapy regimen find it convenient to use and are also enthusiastic abou this method for intermittent venous access.

The short length of survival following implantation o the device is a reflection of the serious nature of th patients' metastatic cancer; therefore, it would seem unreasonable to implant such a device in a patient wh could not live for more than thirty days. However, ever in these instances of short survival, a guarantee of eas access to the venous circulation and more patient com fort is certainly worth the small effort of implantation

Summary

Over the past two years, twenty implantable venou reservoirs (Port-A-Cath™) were implanted in eighteer patients for systemic chemotherapy for malignancy an in one patient with cystic fibrosis. The procedure wa well tolerated even by the patients with the greates disease. There were three deaths in the thirty day post operative period, all related to metastatic malignancy There was one intraoperative complication of pneumo thorax. Two devices had to be removed, one for infec tion and one for suspected leak. The remaining device

nctioned well, even at the time of the patients' death. here is a high level of acceptance for this infusion evice by the patients and the nurses involved in their ntinuing care.

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ir Embolism During eurosurgery in Children

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lan S. Fleischer, M.D.

bstract

Air can be entrained into an open vein and thus into he right atrium if a gravitationally induced negative ressure gradient develops. This event, termed air mbolism, is not uncommon during neurosurgical rocedures with the patient in the sitting position, how-ver significant morbidity or mortality is very low.[1-5] Air mbolism is less common, but also occurs, in the lateral, rone and supine positions. The unusual case of a fatal mbolus in an infant with a patent foramen ovale occur-ng during craniotomy for a large intracranial mass, hile in the supine position, has stimulated this review f air embolism during neurosurgery. To our knowl-dge, a fatal air embolus in an infant while in the supine osition has not been previously reported. It must be mphasized that air embolism can occur in any neuro-urgical position. Preventive measures can be taken, but arly detection is essential, and quick, appropriate treat-ent must be instituted.

rom: Department of Anesthesiology and Section of Neurosurgery, niversity of Arizona Health Sciences Center, Tucson, Arizona 85724. eprint requests to Randall Prust, M.D., Assistant Professor, Depart-ent of Anesthesiology, University of Arizona Health Sciences Center, ucson, Arizona 85724.

Key Words: Air embolism, Neurosurgery, Patent foramen ovale, Paradoxical air embolism

Introduction

Air embolism is a relatively frequent occurrence during neurosurgical procedures performed in the sitting position. It has a reported incidence of approximately 33% in children under the age of 12, and 21% to 45% in adults.[1-5] Associated severe morbidity or mortality is low, however. Whenever the right atrium is gravitationally lower than the surgical incision, a negative pressure gradient may exist. The greater the gradient, the more likely air is to be entrained into a vein. Air embolism has also been described during neurosurgery in approximately 11% of patients in the prone, lateral or supine positions.[5]

To our knowledge, there is no available data on air embolism in children undergoing surgery in other than the sitting position. This case presents a fatal air embolus in an infant while in the supine position, during resection of a large, vascular intracranial mass. It is followed by a review of air embolism during neurosurgery.

Case Report

The patient was a six-week-old, 4.9 kilogram female, referred because of increasing head circumference. A CT scan demonstrated a large left fronto-temporal parietal mass, occupying 30% to 40% of the intracranial volume with a marked shift of midline structures (Figure 1). Cerebral angiography disclosed moderate vascularity. Preoperative preparation included dexamethasone,

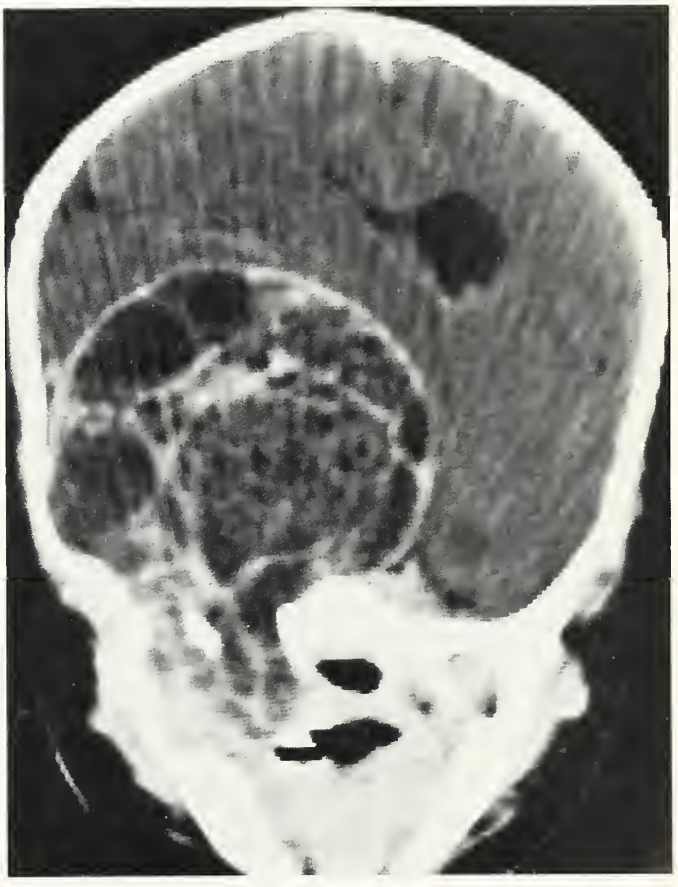


Figure 1
Coronal CT scan demonstrating large intracranial mass.

diphenylhydantoin and atropine. Intraoperative monitoring included EKG, central venous pressure (CVP), continuous intra-arterial pressure and blood gas determinations, esophageal temperature probe, esophageal stethoscope, end-tidal carbon dioxide analysis, pulse oximeter, somatosensory evoked potentials (SSEP) and urine output. The patient was in the supine position with the head turned to the right and minimally elevated. The bulk of the moderately vascular tumor had been removed with stringent blood replacement, when despite a stable anesthetic and surgical course, there was a sudden cessation of heart sounds and a precipitous drop in the end-tidal carbon dioxide concentration. The patient remained hemodynamically stable for one minute while resuscitative efforts were instituted, assuming the possible occurrence of an air embolus. No obvious source was apparent so the operative site was covered with a saline soaked sponge and the child placed in the Trendelenburg position, with the right side up. Aspiration of air through the central venous line in the superior vena cava was attempted without success. Initially, cardiopulmonary resuscitative efforts improved vital signs, however, further deterioration prompted sternotomy where a significant volume of air was aspirated from the right atrium and ventricle. Further resuscitative efforts failed and the child expired. Post mortem examination confirmed the operative diagnosis of primary brain malignancy and disclosed a patent foramen ovale.

Discussion

To our knowledge, this is the first documented case of a fatal air embolus in an infant undergoing neurosurgery in the supine position. The rapid deterioration and death refractory to standard therapeutic measures can best be explained by a paradoxical air embolus. In this situation, air passed from the right atrium through the demonstrated patent foramen ovale into the systemic arterial circulation. Probe patency of the foramen is present in approximately 50% of children five years of age and 80% in children six weeks old.[6] Emphasis on awareness, prevention, detection and treatment of air embolism is extremely important in all neurosurgical positions and especially in the pediatric age group where the probability of severe morbidity and mortality is likely to be considerably higher.

Prevention

Prevention of air embolism, unfortunately, is not uniformly possible. However, the risk may be significantly reduced with the utilization of various techniques. Positive end expiratory pressure (PEEP) has been advocated for both prevention and treatment of air embolus.[7] Increased pulmonary pressure is transmitted to the superior vena cava, thus PEEP can reduce the potential negative pressure gradients. A disadvantage of utilizing PEEP is the possibility of inducing an intracardiac right-to-left shunt through a patent foramen ovale.[8] Avoidance of hypovolemia is exceedingly critical because a low CVP increases the negative gradient. Monitoring CVP and urine output helps in maintaining a normal circulating blood volume. Also valuable in the sitting position is proper positioning with legs elevated an wrapped and the use of a MAST suit to decrease venou pooling. Communication is essential between the neu rosurgeon and anesthesiologist regarding blood loss c other changes.

Detection

Monitoring for air embolism is a controversial area.[2,9-14] Prior to the advent of Doppler monitoring in 1968, th reported incidence of air embolism in adult patients i the sitting position was 1% to 15%. With precordi Doppler monitoring, the detected incidence of a embolism increased to 21% to 45%.[1-5] The Doppler is th most sensitive indicator of air embolus.[2] Under ide conditions, the Doppler can detect as little as 0.5 ml of a passing through the right atrium.[11] The precordia Doppler is the monitor of choice for early detection c an air embolus.[5] It is easier to use than the transesopha geal Doppler.[15]

Generally accepted as the next best detectors are end tidal carbon dioxide analysis and monitoring pulmonar artery pressure. During an air embolus, the end-tida carbon dioxide drops while the pulmonary artery pres sure rises. Elevation of CVP and decreases in cardia output usually are later indicators. Late signs of ai embolism are arterial hypotension, cardiac arrhythmias tachypnea, increased arterial carbon dioxide tensio and the loss of heart sounds.

Treatment

Treatment of an air embolus consists of location an occlusion of the open vein if possible, covering th exposed surgical area with normal saline to preven further air aspiration, lowering the head, turning th patient right side up, discontinuing any nitrous oxide i used, ventilating with 100% oxygen and instituting o increasing PEEP. The hemodynamic and cardiac rhythm irregularities should be treated pharmacologically. It i not uncommon to see ventricular ectopy or hypoten sion reverse allowing continuation of surgery. Occa sionally, the surgical procedure must be halte prematurely, but fatal air embolism is rare. Most anes thesiologists and neurosurgeons recommend the place ment of a central venous catheter for neurosurger performed in the sitting position. In most instances th catheter allows the aspiration of air from the right atriun should an air embolism occur. However, the placemen of the catheter does not assure any air will be retrieve during an air embolism. In children under the age of 12 air was successfully aspirated from a right atrial cathete only 38% of the time.[1] In adults, the incidence varie between 50% to 68%.[1,11]

The proper position of the central venous catheter i somewhat controversial. Studies in adults with catheter in the superior vena cava, right atrium and pulmonar artery demonstrate an overall incidence of approxi mately 60% air retrieval.[16] To our knowledge, there is n similar data available for children. There, the placemen of a central venous catheter is much more technicall difficult. The success rate for placement of a right atria catheter in children under the age of five is reported t

e about 50%. It is 79% overall for children under the age f 12.[1] In adults, the success rate approaches 100%. It is ur opinion that every reasonable effort should be utiled to place a right atrial catheter in the pediatric popution undergoing a major neurosurgical procedure in ny position. Equally important is a precordial Doppler. oth are crucial because of the potentially high morbidy and mortality associated with an air embolism in this ge group.

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Herpes Simplex Virus (Type 1) Encephalitis:
Report of a Case Treated with Acyclovir

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Abstract

Herpes Simplex Encephalitis (HSE) is an acute, often fatal disease that leaves the survivors with severe neurological sequelae. There are two types of herpes simplex viruses which may produce varied neurological disorders like radiculitis, meningitis and meningoencephalitis. In the central nervous system, type 1 infection is more frequent in adults and produces a fulminant necrotic encephalitis, whereas type 2 results in neonatal infections and meningitis or rarely an encephalitis in adults. Reported mortality rates range from 0 to 80 percent. Prompt treatment with new antiviral drugs with more efficacy and tolerance such as Acyclovir offers effective means of controlling the infection. Presented here is a case of herpes simplex virus type 1 encephalitis, treated with Acyclovir. The patient recovered with only minimal neurological sequelae in the form of orientation and recent memory deficits.

Herpes simplex virus is a DNA virus which is the most common cause of sporadic necrotizing viral encephalitis[1] which is not a rare disease in the U.S.A.[2] There are two types of herpes simplex viruses designated type 1 causing mainly labial herpes and type 2 causing genital infections. The mortality rate of herpes simplex encephalitis varies according to different sources with reports of up to 80%.[3] Whitley et al.[4] reduced the mortality to 28% by treatment with Vidarabine. Their control population had a mortality rate of 70%. Herpes simplex encephalitis may occur in all ages, may affect both sexes and is not seasonal.[5] Infections with type 1 virus are acquired very early in life from direct contact usually with infected saliva or skin vesicles,[6] and is responsible for up to 19% of all types of encephalitides.[7]

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Clinical Summary

A 47-year-old white man was admitted to the local hospital on June 13, 1984. The patient was seen in the clinic two days prior to his admission complaining of headaches, fever, nausea and myalgias of two day's duration. He was sent home with a diagnosis of viral sinusitis. Patient returned to the emergency room the next day (the day before admission) when a lumbar puncture revealed a white cell count (WBC) of 257, with 14% polymorphonuclear leukocytes, 86% lymphocytes, protein of 52 mg/dl and glucose of 71 mg/dl. He was slightly confused and was felt to have aspectic meningitis and was again sent home. On his way home he fell off his motorcycle and fractured his left clavicle. The next day he returned to the clinic and was hospitalized. There was no history of loss of consciousness following the fall. Upon admission on June 13, neurological examination showed an awake patient able to give clear history although he was disoriented in time. Recent memory was normal with a tendency for confabulation with proverbs. He could not do serial sevens from one hundred. Funduscopy was normal. His gait was normal, he had a left homonymous hemianopsia, mild left central facial paresis and mild neck stiffness. Deep tendon reflexes were equal bilaterally and toes were downgoing. There was no motor weakness. Sensory and cerebellar testing were normal.

Laboratory studies on the day of his admission showed a normal hemogram, normal blood glucose and electrolytes, and normal liver and renal function tests. Serology for syphilis was negative. Cerebrospinal fluid (CSF) examination showed 126 WBCs with 100% lymphocytes, a protein of 155 mg/dl and glucose of 77 mg/dl. CSF cultures were negative for tuberculosis (TB) and fungi. Herpes virus complement fixation titre in CSF was negative.

The EEG on day of admission revealed diffuse slowing of the background, the right hemisphere being slower than the left. Repetitive sharp waves were present with maximal negativity at T-6 along with intermittent semiperiodic spike and sharp wave discharges. (See Figure 1). Computerized axial tomography (CT) of the head with and without contrast was normal. On admission the patient was considered to have herpes simplex virus type 1 encephalitis on the basis of the clinical presentation and the EEG findings. It was elected to observe the patient for a day initially. He showed a reduction in the visual field deficit and the spike discharges in the EEG were replaced by slow waves by next morning. (See Figure 2). However, by the evening of June 14 his mental status deteriorated, and the patient became unable to remember the events leading to hospitalization. Treatment with Acyclovir was begun immediately and a brain biopsy was planned for the next morning. On June 15 the patient was transferred to the Arizona Health Sciences Center for brain biopsy. At the time of transfer, the patient was awake but his mental status had worsened through the night. He was oriented only to person, and was unable to recall his age or birthdate. A repeat CT head scan showed right temporal edema (See Figu and the brain biopsy material was positive for he simplex type 1 virus which was confirmed immunofluorescence.

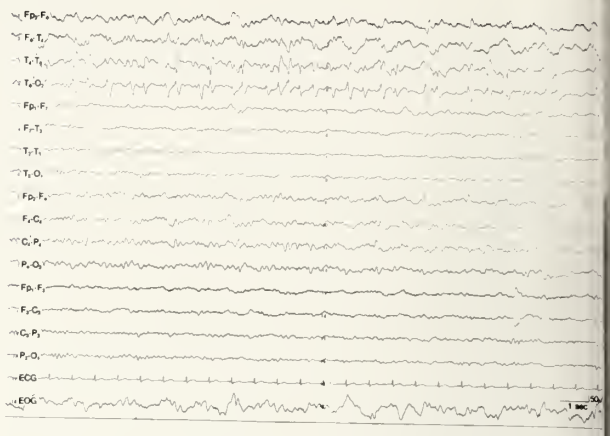


Figure 1
Electro-encephalogram (EEG) done on day of admission sho ing 1) mild diffuse background slowing 2) right hemisphe slowing, most marked over the right temporal region 3) t presence of repetitive sharp waves and spike discharges o the right posterior temporal region.

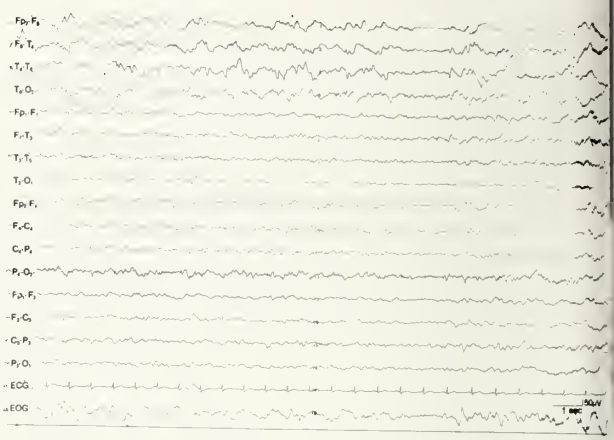


Figure 2
EEG done on the day after admission showing 1) some increa in background slowing 2) more prominent slowing over t right temporal region 3) less prominent sharp waves and spi discharges.

On June 17 the patient developed pneumonia whic cleared up with a seven-day course of antibiotics. H mental status fluctuated but did not progress to com His left homonymous hemianopsia and left central faci paresis disappeared by June 18. By the end of the ten-da course of treatment with Acyclovir the patient wa awake but was disoriented to time and place with poo recent memory. The last EEG was done 13 days after th right temporal lobe brain biopsy and treatment wit Acyclovir was terminated (Figure 4). Although this EE still showed diffuse slowing of the background, th

wing had considerably improved compared to the evious studies. Slowing in the right fronto-central and terior temporal regions persisted compatible with rsistent focal dysfunction. On June 25 the patient was nsferred back to the local hospital where he remained til his discharge on July 13. When discharged, the tient's disability was limited to disorientation in time d difficulty with recent memory, which was slowly proving during the course of hospitalization. At the ne of this report the patient had already moved out of te and could not be reached.

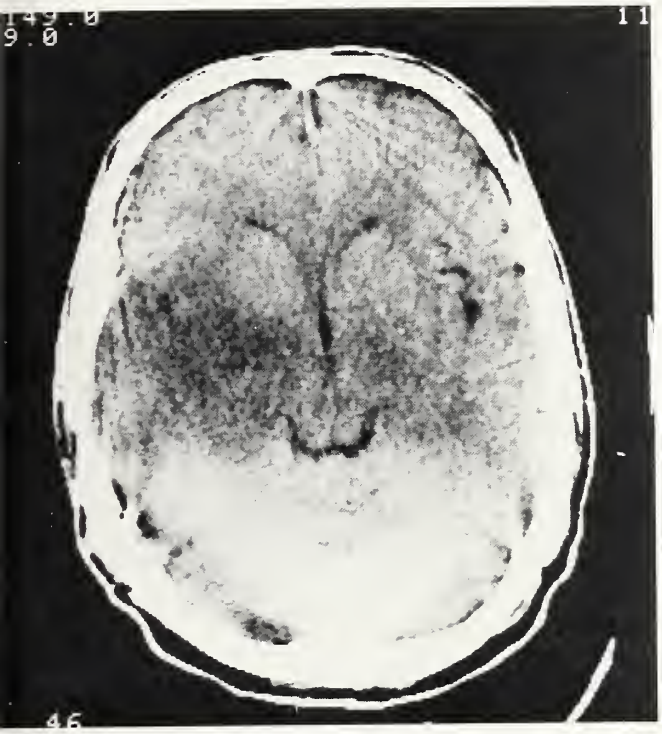


Figure 3
omputerized Axial Tomography done on the seventh day of ness showing an area of decreased density in the right tem-oral lobe (note that the view is from below, the left side of gure representing right side of patient).

omments

Although more common in immunosuppressed individuals, HSV type 1 encephalitis can affect people with pparently normal immune status. Our patient had no vidence of immunological incompetence and suffered four-day period of ill health prior to diagnosis of HSV ncephalitis was clinically suspected. At the time of dmission, the patient had clinical evidence of a mild eningitis associated with parenchymatous inflammation suggested by the presence of the left homonymous emianopsia and left facial paresis of the central type. he EEG showed repetitive spikes and sharp wave discharges although the CT of the head was normal. Thus, a iagnosis of herpes simplex viral encephalitis (HSE) was nade based on the above data.[8,9]

The first CT scan of the head on the fourth day of the llness was normal and is not unusual.[5] The second CT of he head (Figure 3) done three days later without and with contrast showed swelling and edema of the anterior and midportion of the right temporal lobe and insular region with evidence of breakdown of the blood brain barrier. This was highly suspicious for HSE. The CT is very helpful in the diagnosis of HSE because the temporal lobes are usually affected and this shows the area suitable for brain biopsy.[14]

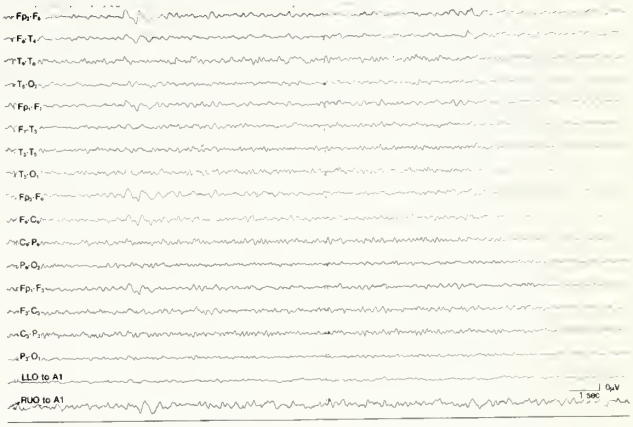


Figure 4
EEG done three days after cessation of treatment with Acyclovir (17th day of illness) showing 1) restoration of posterior alpha activity 2) presence of continued background slowing which is less pronounced 3) the presence of fronto-temporal slowing which is more prominent on the right side.

The diagnosis of HSE was made by clinical EEG and CT findings in 83% of the patients reported by Whitely, et al.[5] The EEG and CT together are very helpful in the diagnosis of HSE.[15,9,16] Radionucleide brain scan was not done on this patient although some authors consider that this test gives more positive results earlier, and more frequently than CT studies would afford.[17]

EEG, when it is abnormal, has been shown to be a valuable diagnostic tool in cases of HSE and is especially useful when CT is normal. In those cases the EEG alone affords lateralization for the purpose of brain biopsy. Characteristically, the EEG shows periodic complexes over the affected hemisphere. The periodicity is variable occurring once every one to four seconds in different patients. Repetitive sharp waves and focal slowing also have been described. However, these EEG patterns are not pathognomonic of HSE, as the same pattern may be seen in other kinds of encephalitides,[10,11] cerebritis, brain abscess, and gliomas, as well as postictal states.

When present, these EEG findings can be demonstrated as early as two days after the onset of the disease.[12] The longer the paroxysms, the worse the prognosis for recovery.[13,16]

The diagnosis of HSV type 1 infection was confirmed in this patient with the brain biopsy and a positive culture. Light and electron microscopy were compatible with nonspecific encephalitis. No nuclear inclusion or viral particles were seen. HSV type 1 was isolated from culture of the brain biopsy material and examined by

direct immunofluorescence using conjugated specific antiserum samples to herpes simplex virus type 1 and type 2 antigens.[18] The brain biopsy is the single best procedure for diagnosing HSE.[19-21]

Treatment with antiviral agents has been encumbered with their ineffectiveness or toxicity. One of the early antiviral agents tried was Idoxuridine which has been shown to be very toxic[22] and did not significantly change the likelihood of survival.[3] Studies on Cytarabine,[23] and Cytosine Arabinoside[24] have shown encouraging results but have not been sustained. Adenine Arabinoside (Ara-A, Vidarabine) is an antiviral chemotherapeutic agent with good efficacy,[4,25] but it is somewhat limited due to potential toxicity. When used, it is given for a full ten-day course.[26,27] However, viral recovery has been made even after a ten-day course.[28] Acyclovir is a new effective antiviral agent[29] against HSE, although Vidarabine is the most widely used drug in the treatment of HSE. Resistance to high concentrations of ACV has been reported in type 1 and type 2 infections.[30] Although neurotoxicity associated with parenteral ACV treatment after marrow transplantation for leukemia has been reported characterized by agitation, tremor and abnormal electroencephalograph recordings (polyspike and wave activity),[31] it is rare and reversible.

The recent report by Skoldenberg, et al.[29] from the Karolinska Institute favors the choice of ACV to Vidarabine by demonstrating a lower mortality of 19% compared to 50% in their control population, as opposed to 28% and 70% mortalities respectively in the study by Whitley, et al.[4] ACV interferes with active viral DNA synthesis[32] and therefore does not affect noninfected cells,[33] nor does it affect nonreplicating latent virus. The drug is specific to the infected cell, as it requires a virus-specific thymidine kinase for conversion to its triphosphate form which acts as an inhibitor of the viral DNA polymerase. Acyclovir has been shown to be more potent and less toxic than Vidarabine by other investigators and has been held up as the most promising new antiviral agent by other authors.[32] Whitley, et al. who proved the effectiveness of Vidarabine in 1977 also have shared this sentiment in subsequent publications.[34] A comparison of the two drugs by the same group is now underway although the superiority of one over the other has not been established by them.[35] Nonetheless, Acyclovir appears to be emerging as a less toxic and more potent alternative to Vidarabine in the treatment of HSE.

Summary

A case of HSE diagnosed on the basis of clinical and EEG findings is presented. Treatment with Acyclovir did not prevent the confirmation of diagnosis by brain biopsy. The patient was treated with Acyclovir which resulted in reversal of severe cognitive deficits and prevented progression of the disease. The patient did have residual deficit in recent memory upon recovery. The role of Acyclovir as a potent and less toxic alternative to Vidarabine is discussed.

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Briefly Noted

dward D. Campbell, Jr., M.D., Phoe-, spoke on "Local Hospital Bone Bank-" at a meeting of the Association of perating Room Nurses in Dallas in pruary.

Robert Crawford, M.D., Phoenix, was med St. Joseph's Hospital "Pediatrician the Year" during a recent conference, ediatrics 1985: Major Concerns for the ysician."

W. Lee Fanning, M.D., Scottsdale, and **ark H. Gotfried, M.D.**, Phoenix, are ong the 264 new Fellows elected into e American College of Physicians.

Drs. Richard P. Greenberg, and **William Mast**, Tucson, have joined Northwest spital's Board of Trustees.

William S. Masland, M.D., Tucson, has en appointed medical director for the Reilly Care Center, St. Joseph's Hospi-'s 18-bed drug and alcoholism treat-nt facility.

Saul N. Schreiber, M.D., Phoenix, oke on "Acute Meniscal Tears in tients Age 65 and Older" at the 1985 nual Meeting of the Arthroscopy Asso-tion of North America.

Florence Yount, M.D., Prescott, was e of four women honored by the Pres-tt Chapter of the American Association University Women during National story Week, March 3-9. Dr. Yount, a ng-time ArMA member, was described having "helped shape the medical his-ry of the Prescott area." Her husband, arence E. Yount, Jr., M.D., is a past-esident of the Association.

The Arizona Medical Association wel-mes the following new members:

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State University of New York - 1937



Tucson physicians, Daniel Field and Ron Spark, visit with Representative David Bartlett, also of Tucson, at ArMA's legislative reception.



Senator Peter Kay, Phoenix, and Dr. Richard Zonis, Scottsdale, talk things over at ArMA's legislative reception held this year at the ArMA building in Phoenix.

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Please see brief summary of prescribing information on the next page for further details.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR.)*

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DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of sympathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, e.g. dobutamine or isoproterenol. However such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General.* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart disease; elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility. Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular: bradycardia, congestive heart failure, intensification of AV block, hypotension, paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System: lightheadedness, mental depression manifested by insomnia, lassitude, weakness, fatigue, reversible mental depression progressing to catatonia, visual disturbances, hallucinations, an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal: nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic: pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

Respiratory: bronchospasm.

Hematologic: agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune: In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous: alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

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Library Talk

Medical History/ Medical Literature

Bertha R. Almagro

The 17th century marked the rude beginning of a new phase of national medicine in America. The new world settlements of Jamestown, Virginia, Plymouth Colony, and the New Netherlands, drew a number of European physicians, one of whom was to produce the first and only medical publication printed in the North American colonies during this time. This was a one page folio broadside, measuring 12 by 17-5/16 inches, printed in double column on one side, entitled "*A Brief Rule to Guide the Common People of New England How to Order Themselves and Theirs in the Small-Pocks or Measles.*" It was printed in 1678 by John Foster, an engraver from Boston.

The Reverend Thomas Thacher (1620-1678), author of this broadside, was a clergyman and physician who had arrived in New England at the age of 15, accompanied by his uncle, the Reverend Anthony Thacher. Although Thomas Thacher had completed his medical studies under the tutelage of the eminent scholar Reverend Charles Chauncy, who had himself "read medicine" at Cambridge, he modestly underplayed his status as a physician, as can be observed from the following lines written as an introduction to his publication: "These things I have written, Candid reader, not to inform the Learned Physitian that hath much more cause to understand what pertains to this disease than I, but to give some light to those that have not such advantages. I am, though no Physitian, yet a well wisher to the sick."

Medical knowledge in those times was mostly based on extensive reading reinforced by actual practice brought about by widespread sickness and the limited number of trained physicians. The colonists were faced with a harsh, primeval environment, and the sickening forces of epidemic disease multiplied their hardships. Therefore, medicine meant basically "doing good," and sincerely caring for the general well-being of the community. As an ordained minister appointed to the Old South Church in Boston, in 1670, and as a physician, Thomas Thacher dedicated his efforts to provide medical care and spiritual comfort to his fellowmen. His death, which occurred the same year his broadside was printed (1678), is testimony to his enormous dedication. After visiting a sick patient suffering from "a fever," he became ill and died on October 15 at age fifty-eight.

His broadside represented the first effort to educate the population on matters related to the prevention and treatment of a disease, therefore Thacher can be considered a pioneer in the areas of *public health and patient education*. His effort was not matched until the next century when a flourish of medical pamphlets took place. Most of these pamphlets dealt with specific diseases — smallpox, measles, yellow fever, diphtheria, typhus, etc., which systematically decimated the members of the various settlements.

Some examples of 18th century broadsides and pamphlets can be found in Robert B. Austin's "*Early American Medical Imprints, 1668-1820.*" I have selected a few representative samples of these early publishing efforts and listed them at the end of this article for the enjoyment of the readers. One of the pamphlets is penned by no less than Noah Webster, the famous lexicographer whose name became a mutual synonym for the word dictionary.

The broadside format, with its simple and practical approach, provided a valuable source by which medical information could be spread among the lay community. The scarcity of physicians accentuated their value, and as the sole disseminator of medical information, the broadside occupies a very prominent role in the development of medical literature.

From: The Assistant Librarian for Processing Services, University of Arizona Health Sciences Center Library, Tucson, Arizona 85724.

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3. Shaftel N: The Evolution of American Medical Literature. In: History of American Medicine., ed. Felix Martí-Ibanez. N.Y., MD Publications, 1959.

Broadsides

Boston, Selectmen. Boston ss. At a meeting of the Selectmen February 21, 1746. (On the smallpox, and republishing the act of the General Court published January 17, 1742, "to prevent the spreading of the small-pox and other infectious sickness, and to prevent the concealing of the same." Boston, 1746) Broadside.

Gardiner, Silvester, 1707-1786. To the freeholders and other inhabitants of the town of Boston, in town meeting assembled March 1761 ... (concerning the establishment of a hospital for small-pox) (Boston, 1761) Broadside. 38.5 cm.

Massachusetts (Colony). Lieutenant Governor ... A Proclamation ... (On the attempt to communicate the small-pox to the family of Benjamin Lynde, in Salem) (Dated May 28, 1752) Boston, John Draper, 1752. Broadside. 30.5 x 39 cm. Preceding caption: By the Honourable Spencer Phips, Esq.

Rhode Island. Laws, statutes, etc. Resolved, that the act permitting inoculation within this state, and all acts made in addition to and amendment thereof, be suspended until the first day of October next ... (Providence, 1778) Broadside. 18 x 23 cm. The original act was published in 1776.

Smith, James, 1783-1812. Yellow fever. As the yellow fever has again made its appearance in this city, the opinion of a physician ... (signed) James Smith, M.D. No. 10, Lombard-Street, New-York. Sept. 10, 1798. (New-York, 1798) Broadside. 14 5/8 x 8 3/4 in.

Webster, Noah, 1758-1843. (Circular) To the physicians of Philadelphia, New-York, Baltimore, Norfolk and Newhaven, Gentlemen, as a malignant fever, has, for three summers past raged in different parts of the United States ... it becomes highly important to ... take steps ... to prevent the introduction, arrest the progress, or mitigate the severity of such a serious calamity ... New-York, Oct. 31, 1795. (New York, 1795) Broadside. folio. Signed: Noah Webster, Jun.

Worcester (County), Mass. Court of General Sessions. At a court of general sessions of the peace within and for the county of Worcester, held at Worcester on the first Tuesday of September, 1776, ordered, that the following rules and regulations be printed ... (Rules and regulations for inoculation hospitals, September 4, 1776.) (Worcester, 1776) Broadside. 39.1 cm.

Physical Medicine and Rehabilitation at the University of Arizona

1947 marks the year when Physical Medicine and Rehabilitation was formally recognized as a medical specialty by the establishment of the American Board of Physical Medicine and Rehabilitation. However, the benefits of a comprehensive rehabilitation program were only practiced in a very few civilian centers but had not reached the curriculum of our medical schools.

Dr. Howard A. Rusk, the pioneer of Physical Medicine and Rehabilitation, demonstrated to the army that rehabilitation rather than convalescence was essential to restore soldiers to fitness for return to duty.[1] Physicians in civilian institutions began to abandon the concept of bedfast convalescence for the benefits of early mobilization. At that time, Dr. Rusk began to refer to Rehabilitation as "the third phase of medical care" to be implemented following the first phase, preventive medicine, and the second phase, curative medicine and surgery.[1] Thanks to Dr. Rusk's efforts and the efforts of some of the early pioneers, Rehabilitation Medicine is recognized today as a necessary and integral part of the management of chronic diseases and disabilities.[1]

Physical Medicine and Rehabilitation has been practiced in the state of Arizona for over two decades, but over that period of time its academic influence has not been felt. The University of Arizona has taken a positive step this past fall by creating the section of Physical and Rehabilitation as part of the division of Restorative Medicine and the Department of Internal Medicine. The newly created section is to devote its initial efforts to build a solid clinical base upon which a residency program is to follow. The clinical facilities of the University Medical Center, as well as other participating institutions, will be utilized for the training of residents. Hopefully, this plan can be implemented for July 1, 1986.

Physical and Occupational therapies will expand. Programs of cardiac rehabilitation, "back" school, day care outpatient therapy, joint replacement, and geriatrics and expanded sports medicine and hand clinic programs will be accommodated.

During the few months that the program has been in operation, University Medical Center physicians have been quite supportive with referrals for evalu tion and management of chronic disabl patients as well as electrodiagnostic st dies. Our therapists now are providi inpatients and outpatients with t requested therapy and their valuable se vices are greatly appreciated. Affiliati with Physical and Occupational Thera schools is to be operational by the fall 1985, to provide educational opportu ties to those Allied Health Professio whose vital input is so essential in t development of a good comprehensi rehabilitation service. In this way we pl to serve our community, our medi center and provide the academic and se vice oriented visibility vital to t discipline.

Pedro Luis Escobar, M.D.
Chief Rehabilitation Services
Clinical Professor of Internal Medicine and Family and Community Medicine
Louis J. Kettel, M.D.
Dean, College of Medicine

Reference

1. Kottke F, Stillwell K, Lehmann J: Kruse Handbook of Physical Medicine ar Rehabilitation. Third ed., W.B. Saunde Co., 1982.

Quality as the Quoin* of Our Profession

**Quoin (koin) n. = cornerston*

Quality is *not* synonymous with qua tity, as all of you who suffered throug chemistry courses, Quant and Qual, c attest. Quantity is derived from the Lat "Quantus" or "how much." It is a thing property that can be measured weighed as opposed to quality from th Latin "Qualis" or "of such a kind."

Qualitative analysis discloses the bas elements or character of a thing. It su gests excellence and we often emphasiz its implied superiority by "aiming f quality rather than quantity."

The ArMA Long Range Planning Cor mittee accepted the challenge of definir "quality health care" since it appears s frequently in print nowadays—ofte about to be reduced in quantity. The are some of their edited definitions:

Quality health care is

- competent diagnosis and treatment.
- available and accessible.
- care with continuity and responsibilit
- the efficient application of medic science to achieve the highest possibl state of health attainable.

the least amount of care resulting in
greatest effectiveness and improve-
nt in life.

treatment which satisfies both patient
d physician that under the given cir-
mstance, the best possible medical care
s given and received.

medical service chosen by a physician
d delivered optimally in the most eco-
mical way.

the essential, distinctive and enduring
aracteristic of inherent and intrinsic
cellence.

the current state of the art with con-
rn as to the financial consequences and
bsequent availability to all, irrespective
race or ability to pay.

the optimal effort by physician and
tient to conserve health and cure dis-
se in such a manner as to preserve the
gnity of each without compromising
e conscience of either.

a unique sense to the beholder
atient, provider, politician, insurer,
stitution, economist, environmentalist,
.).

an environment where the physician
y prescribe, treat or refer a patient with
e sole consideration being what is best
r the patient.

to the lawyer 80% of whatever is done;
e other 20% is malpractice.

according to the Social Security
nendments Act of 1983, the product
nsured" by having hospitals contract
th PROs.

Perhaps free choice, satisfaction, kind-
ss, compassion and excellence are
ualities impossible to quantify but they
main essential to "quality health care."
ey must not be lost in our rush to con-
n cost. Quality may be the quoin of our
ofession, but obsession with coins may
our ruin.

eil O. Ward, M.D.
hairman
MA Long Range Planning Committee

Correspondence

itor:

There is a plethora of license plates car-
ng the disabled insignia. Invariably,
wever, the people that I have seen get-
g out of automobiles carrying these special license plates do not seem "disabled." As an aside, it is amazing how many luxury cars with the disabled insignia are parked in those spaces designated for the disabled in the Park Central Medical Building where I have my office, but in the 15 years that I have been here, I have seen no more than three or four people with wheelchairs or those who appear to be truly disabled getting in or out of those reserved spaces. My point is this, I suspect that we physicians, in order to maintain the image of "the good guy" and not to offend the sensitivity of our patients, perhaps stretch the truth a little bit to assure them a disabled license plate. The fact that many of the cars that sport these plates are luxury cars makes me wonder if there is not that special segment of society that knows how to use the system. Please, I am not a socialist, so let's get that out of the way, but I do not believe it is fair to those who are truly disabled and need these special close-in spaces. We as physicians should make the distinction between being disabled and those being inconvenienced. There are many able-bodied cynics who are also well aware of this inconsistency and use these parking spaces reserved for the disabled whenever they are available. Let us, therefore, reserve that special notation for the truly handicapped.

S. J. Gualtieri, M.D.

ArMA Reports

The minutes in this section have been condensed. A complete copy will be sent to any member requesting them.

PUBLIC RELATIONS COMMITTEE

A meeting of the Public Relations Committee of the Arizona Medical Association, Inc. was held Saturday, February 23, 1985, at 810 West Bethany Home Road, Phoenix.

Dr. Ward described the Oregon Public Awareness program as basically a town hall concept for gaining a public consensus rather than imposing a solution to many of the difficult ethical and socioeconomic issues faced by physicians and society today. The committee then discussed how the Oregon program could be adapted for use in Arizona, and discussed various groups that might be involved. It was agreed that a program of this type would demonstrate physicians' concern for both patients and the public but that it would require strong physician involvement. It was moved and carried to recommend to the Board of Directors that a study be established under the leadership of Dr. Ward to plan a statewide project which will bring medical-ethical and socioeconomic issues of today to the attention of the public.

Twenty-six physicians out of 100, and 15 public relations directors/newsletter editors out of 24 responded to the *Medi-Facts* survey with the majority requesting continued distribution of health and medical information by ArMA. Because *Medi-Facts* was generally perceived as being an effective vehicle for distributing health and medical news, the committee agreed that a fourth issue should be developed.

It was decided that members of the Public Relations Committee should act as judges for medical accuracy of material submitted for ArMA's Media Awards program, with entries being assigned to specialists according to subject matter.

The committee discussed the Public Relations programs of the Medical Association of Georgia including the letter from Mr. Ken Williams. It was decided that efforts to inform the public about the dangers of smoking and alcohol would be of value. Because of other ongoing public relations efforts, it would not be feasible to institute a large-scale educational program at this time. Staff to collect information from the Lung Association and March of Dimes and make samples of their educational material available at the annual meeting.

Because poor physician/patient communication results in a negative image of physicians, the committee discussed ways in which physicians' communications skills could be improved. It was suggested that a daylong program consisting of morning lectures by such distinguished speakers as Norman Cousins followed by afternoon communications workshops might be effective. Dr. Kravetz and staff are to research the possibilities of such a program and report back to the Public Relations Committee which will then refer their recommendations to the Scientific Assembly Committee.

PROFESSIONAL COMMITTEE

A meeting of the Professional Committee of the Arizona Medical Association was held Wednesday, March 6, 1985, at 810 West Bethany Home Road, Phoenix.

Dr. Hanss read his letter to the Long Range Planning Committee in response to their question as to whether the Professional Committee should continue as a committee of the Association. Dr. Hanss felt that while many of the responsibilities of the Committee have been delegated to other committees, professionalism is becoming an increasingly important issue and, for this reason, it is vital that the Professional Committee continue as an

active committee of the Association.

The Board of Directors requested that the Professional Committee review the report of the Pritzlaff Commission to establish ArMA's position on the matter of long-term care in Arizona. Dr. Ashton Taylor, member of the Pritzlaff Commission, highlighted some of the twenty recommendations of the commission and responded to questions raised by committee members. Dr. Charles Henderson reviewed testimony which he had given to the commission on ArMA's behalf and indicated that many of his recommendations had been included in the final report.

After much discussion the committee asked Dr. Taylor to summarize the major recommendations contained in the report, to be incorporated in the Committee's recommendations to the Board of Directors, and the following motion was made: It was moved and carried to recommend endorsement of the report of the Pritzlaff Commission on Long-Term Care, incorporating the attached outline of major points as presented by Drs. Taylor and Henderson. This recommendation also to be presented to the Task Force on Economics of Quality Care.

Dr. Kriegsfeld presented the background of a situation he was involved in at St. Joseph's Hospital which he felt the Committee should examine and perhaps make a recommendation as to the ethical obligations of interpersonal relationships between hospital-based physicians and independent physicians. Extensive discussion on the situation followed and, after several attempts to incorporate the Committee's reactions into a motion of referral, the Committee agreed that Dr. Hanss, as Chairman, should request to meet with the Executive Committee at their March 22 meeting to personally present the situation and feelings of the committee.

A letter received from the Pacific Geriatric Education Center, a federally-funded educational resource center, offering varied types of assistance to Region IX states in the fields of Geriatrics and Gerontology, was reviewed by the Committee. The Committee felt that the letter should be referred to the Scientific Assembly Committee to possibly develop a "Current Perspectives" program on this topic, since long-term care and geriatric care are of increasing concern to Arizona, and the resources of the Pacific Geriatric Center might be helpful in planning and providing the program.

A news clipping announcing that the Arizona Department of Health Services will be performing evaluations of all skilled nursing home facilities was reviewed. It was felt that while it would be difficult for any skilled nursing home facility to receive an excellent rating under the criteria developed by the ADHS, the concept is a good one, and the news clipping regarding the matter was received for information.

The Committee reviewed a letter received from Dr. Paul Jarrett expressing his disapproval of an advertising flyer offering to pay physicians one-half the purchase price of each mattress pad ordered by a patient through the doctor's office. While Dr. Jarrett's reaction to the advertising was understood, the Committee felt that there is nothing ArMA can do about commercial advertising, but if it is known that physicians are participating in this promotional activity, perhaps their actions individually would come under the jurisdiction of the Board of Medical Examiners. A response should be made to Dr. Jarrett stating the above.

At the request of the Board of Directors the Committee reviewed a document developed by the State of California concerning alternative treatments of breast cancer. The Committee felt that a brochure of this type could be helpful to physicians in explaining breast cancer to patients, but did not feel that ArMA should develop a similar brochure at this time, for several reasons, including the fact that the information may become outdated while still in circulation under ArMA's name.

Dr. Chick, Chairman of the Sports Medicine Section, described the unique structure of this committee and reviewed some of the activities of the section: The B.A.S.I.C. (Basic Athletic and Sports Injury Care) course, originally developed by this committee, has become nationally as well as internationally known.

The Section was instrumental in the amendment of the Good Samaritan Law, which now provides relief from civil liability for health care providers who agree to attend amateur athletic events to care for injured athletes without compensation. The Section is also currently working with the Arizona Interscholastic Association to have the AIA yearly preparticipation physical requirement changed to one physical the first year with simple updating each year thereafter.

The 11th Annual Sports Medicine Symposium will be held April 12, 13 and 14, at the Holiday Inn Metrocenter, Phoenix.

GOVERNING COUNCIL HOSPITAL MEDICAL STAFF SECTION AND ARIZONA HOSPITAL ASSOCIATION LIAISON COMMITTEE

A meeting of the Governing Council of the Hospital Medical Staff Section of the Arizona Medical Association, Inc. and the Arizona Hospital Association Liaison Committee was held on Saturday, March 9, 1985, at the offices of the Arizona Medical Association.

The members viewed a "Mandatory Assignment" video provided by the American Medical Association, which was followed by an open discussion of reactions and use of the video as a portion of the Annual Meeting of the Hospital Medical Staff Section.

It having been previously agreed that a working/planning session should be held to determine issues of mutual concern to be addressed by the joint group, as well as the priorities in which they should be addressed, the members spent a great deal of time discussing perceived issues which should be subjects for the group's deliberations and possible development of position papers for presentation to the respective Boards of both Associations for adoption.

Determining that only a few concerns could beneficially be addressed at one time, it was agreed that the following task forces be appointed and provide to the members during the next meeting an outline as to how to implement that task force and setting forth specific goals and objectives to be achieved.

Quality Assurance Task Force — William G. Payne, M.D., Chairman; Richard Pheber, member.

Professional Liability Task Force — N. O. Ward, M.D., Chairman.

Notch Group Task Force (Voucher System) — Reid Wood, Chairman; Don Courtright, member.

It was also agreed that a task force might concern itself with the previously published comparative cost analysis booklet and Chuck Shipley agreed to obtain and provide for review all information available regarding attempts to get the booklet rewritten.

The members discussed a letter received from the Arizona Society of Physical Medicine and Rehabilitation expressing concerns about the availability and cost of physical therapists, and it was determined to invite representatives from the physiatrists and physical therapists to discuss the issues involved and provide an impartial forum in which to air grievances and, hopefully, arrive at some solutions.

A short meeting of the Governing Council members was held immediately following to finalize the format for the HMSS Annual Meeting to be held on Thursday, April 25, 1985. It was determined that, besides the viewing of the "Mandatory Assignment" video, the agenda would include presentations on the ArMA/ArHA liaison activities, committee management, hospital risk management, and election of 1985-86 officers.

EXECUTIVE COMMITTEE

A meeting of the Executive Committee of the Arizona Medical Association, Inc. was held at the Association's headquarters on Friday, March 22, 1985.

Representatives of the Arizona Society of Physical Medicine and Rehabilitation discussed with the committee concerns relating to physical therapists, and the fact that many patients are not receiving

cessary therapy or are receiving it der great financial burden. The group cussed and explored the feasibility of a ogram for the education and training of herapy technicians," who could work ectly for and under the direction of ysicians. It was agreed that some items hich require evaluation, study and commendation are guidelines for a curulum and determination of institutions hich might appropriately include such a urse within their educational format d, it was moved and carried to refer the atter of supporting the establishment of program for training and education of erapy technicians to the Governing uncil of the Hospital Medical Staff Sec-n, requesting it, in its liaison relationip with the Arizona Hospital sociation to evaluate and study the sibility of such a program and develop commendations as to how the Arizona edical Association might be most effece in promoting and assisting the develment of same.

It was additionally agreed that ArMA ff would continue to monitor legislan which might change in any respect e current laws governing the practice of ysical therapy, making appropriate commendations for Association tivity.

The committee discussed the conued efforts being made to work out the yment of the unpaid physicians' bills e to owing by AHCCCS, and it was oved and carried that the Association, rough staff, continue the study of paid physicians' AHCCCS claims.

Dr. Ward, Chairman of the Memberip Committee, presented a brief oute of that committee's activities in gard to securing a health insurance plan another benefit for ArMA members, d the Executive Committee gave its ncurrence that the Membership Comttee, through discussions with Aetna, e Maricopa Foundation, and Health gencies of the West, Inc., continue to plore the concept of developing a ember health insurance program.

Based upon the action of the Public elations Committee recommending at a study group be formed to plan and velop a public awareness program, Dr. ard outlined his ideas regarding same d it was moved and carried to unanimsly support the establishment of Arizo-'s Medical Decisions (AZ. M.D.'s) to velop and conduct public educational tivities relating to medical-ethical and cioeconomic issues confronting society day.

Dr. Joseph Hanss, Chairman of the Prossional Committee, reported on a cent occurrence which had been ought to his committee's attention and ncerns which had surfaced relative to e ethical issues of interpersonal relanships, i.e., as between administrationedical staff/ practicing physician/ family. Following a lengthy discussion it was moved and carried to receive for information only the matters referred by the Professional Committee but, additionally, to request St. Joseph's Hospital to provide the conclusions arrived at in the specific case involved for the purpose of providing guidelines for use in addressing future matters of this nature.

Additionally, Dr. Ward pointed out that a portion of the program for the Hospital Medical Staff Section Annual Meeting on Thursday, April 25th, would be devoted to risk management and "Who is Managing the Physician's Risk"; and that the Long Range Planning Committee will, during its next meeting, consider the establishment of a bioethics committee, both of which will hopefully assist the physician in being better informed.

The agenda for the 3-23-85 Board of Directors' meeting was reviewed, with additions being made thereto.

The program for the 1985 Rural Health Conference (August 1-3, Flagstaff), together with a request for support from the U of A Rural Health Office, were reviewed and discussed by the committee, and it was moved and carried that the Arizona Medical Association supports, in concept and principle, the 1985 Rural Health Conference scheduled for August 1-3 in Flagstaff, but, based on policy established by ArMA's House of Delegates, has determined that such support be without financial contribution.

The committee received reports regarding Florida legislative activity and demographics relating to the establishment of a Mayo Clinic facility there.

BOARD OF DIRECTORS

A meeting of the Board of Directors of the Arizona Medical Association, Inc. was held at the Association's offices on Saturday, March 23, 1985.

Mrs. Holmes, President of the ArMA Auxiliary, commented briefly to the Board on the planning for their 1985 Annual Meeting which would be the first to include their new House of Delegates format and their ongoing AMA-ERF efforts. The Board also received correspondence from the Auxiliary relating to the 1986 (and future) Annual Meetings.

The Board reviewed and discussed the February Statement of the Board of Trustees of the AMA on Medicare Reimbursement, Fee Freeze and Needs of Low-Income Medicare Patients and it was a consensus opinion that the Association should issue a release emphasizing the positive side of the voluntary fee freeze and physicians' continuing desire to consider the financial circumstances and welfare of their patients.

A resolution prepared by Dr. Zonis for Board approval and submission to the 1985 meeting of ArMA's House of Delegates dealing with the Arizona Department of Health Services' Public Health Agenda was discussed, without action, by the Board, with Dr. Zonis additionally reading comments from Dr. Novick attempting to address the concerns regarding Objective Number 29 of the Agenda.

It was moved and carried to approve the granting of additional 50-year Club memberships to Samuel I. Rothman, M.D. and E. Henry Running, M.D.

Dr. Baker reviewed for the Board the various matters considered and acted upon by the Executive Committee at its January and February meetings. During a discussion relating to the action taken not to establish a Jail Advisory Committee for the Department of Corrections because of potential liability, it was moved and carried that a letter be directed to the Department of Corrections advising that the Association would be willing to establish a Jail Advisory Committee, as previously requested by it, if the Committee and the participating physicians were granted immunity from liability by the Arizona Legislature.

It was moved and carried to ratify and approve the minutes of the Executive Committee meeting held on January 25, 1985 and February 22, 1985.

Dr. Hirsch reviewed for the Board the three proposals for the 1986 Calendar Year Budget which were before it for consideration, discussing at great length all situations considered by the Finance Committee in attempting to develop a workable budget and responding to numerous questions, comments and concerns from members of the Board. Following the discussion, it was moved and carried that Resolution No. 5-85 — Proposal Number One for the 1986 Calendar Year Budget of Income and Expense — be amended by deleting in paragraph 1 of the preamble the words "Resolution No. 1-85 is adopted and we merge with *The Western Journal of Medicine* and that," with the paragraph then reading in its entirety, "that we eliminate *Arizona Medicine* in its present form."

It was moved and carried that resolution No. 5-85, as amended be approved and submitted to the House of Delegates during its April 1985 Meeting for adoption as the 1986 Calendar Year Budget of income and expense for the Association.

It was moved and carried to accept, as presented, the financial statement prepared for January 1985.

Dr. Belton Meyer, Chairman of the Task Force on Economics of Quality Care, extensively discussed the activities and deliberations of the Task Force in developing the proposed resolution on "Promotion of Effective and Economical Health Care," which had been presented to the Board for action. Dr. Meyer indicated the Task Force has scheduled a meeting for April 13th, during which it will reevaluate and revise the proposal, and based upon his presentation, the

Board took no action on the proposed resolution, receiving it for information only.

Following a review of Resolution No. 15-84, "Deposits and Disbursements from a 'DRG Data Bank,'" adopted by the House of Delegates on 4/28/84; the action of the Board of Directors on 7/28/84 and the report on the AMA's DRG Monitoring Project and the Prospective Pricing System adopted by the AMA House of Delegates in December 1984, it was moved and carried that the report on AMA's DRG Monitoring Project and the Prospective Pricing System adopted by the AMA House of Delegates in December 1984 be submitted to ArMA's House of Delegates during its April meeting in response to Resolution No. 15-84 previously adopted by it.

Mr. Older reported to the Board on the success of the recent Legislative Reception held at the Association and updated the Board on activities at the legislature, advising that ArMA is currently tracking 104 bills, and giving brief status reports on such issues as CON repeal, malpractice, statute of limitations, optometry and the Mayo clinic.

It was moved and carried to confirm the appointment of William F. Binder, M.D. as a member of the Legislative Committee for the term 1985-88.

The March 6th action and recommendations of the Professional Committee relative to the Pritzlaff Commission on Long-Term Care, together with the Executive Summary Report of that Commission were received and extensively discussed by the Board, following which it was moved and carried to endorse the report of the Pritzlaff Commission on Long-Term Care and its implementation via appropriate state agencies.

It was moved and carried that recommendations on the Pritzlaff Commission on Long-Term Care formulated by the Professional Committee be forwarded to the Task Force on Economics of Quality Care for its study and consideration.

The Board received reports from Dr. Spark, President of the Pima County Medical Society, on two new programs @ PCMS, i.e., a "Women to Women" program, concerning itself with stress related issues, and a system to provide local physicians, on a voluntary basis, to cover another physician's practice during a time of disability; and from Dr. Anderson on the April "Current Perspectives" program, during which he encouraged attendance so as to make it as successful as possible.

Based upon advice from legal counsel, it was moved and carried to approve a change of Statutory Agent for the Association and it was

Resolved, that Bruce E. Robinson be, and is hereby, designated the Statutory Agent for the Arizona Medical Association and the Arizona Medical Association Foundation, in lieu of Edward Jacobson; and

Resolved further, that the appropriate officers of this corporation are hereby authorized and empowered to execute and deliver to the Arizona Corporation Commission a statement of Change of Statutory Agent and any other instrument necessary to cause such change to become effective under Arizona Law.

LONG RANGE PLANNING COMMITTEE

A meeting of the Long Range Planning Committee of the Arizona Medical Association, Inc. was held at the Association's headquarters on Friday, March 29, 1985.

The committee reviewed and discussed responses to a solicitation for comments on the enlargement of Grievance Committee activities at the state level. It was the consensus of the members that this would be a worthwhile program for the Association, but could, by this committee, only be conceptualized for referral to the Board of Directors, requesting it to give the 1985 Grievance Committee (or the Committee on Professional Affairs, should the new structure be adopted) direction to study and further develop a program for ArMA's activities in this regard. It was determined to recommend the following as guidelines for such a program: 1) that, in all instances, written complaints and responses thereto would be solicited; 2) that, if requested, the complaint would be referred to the county society for handling but, otherwise, would be determined by ArMA; 3) that, in instances where a complaint was against a nonmember physician, the physician be given the opportunity to join the Association and be afforded committee review and decision, or alternatively, that the complaint be forwarded to BOMEX; and 4) that the core committee rely on contact physicians in the area of specialty of the physician whose activities are complained about.

Having received and reviewed correspondence and various brochures, manuals and other documents relating to bioethics committee development, the members discussed at great length whether ArMA should develop its own bioethics committee, should assist others in the development of in-house committees, or should simply serve as a repository of already published materials, providing same upon request. It was moved and carried to recommend to the ArMA Board of Directors that a task force on bioethics be established to 1) research and establish guidelines as to the functions and structure of ethics committees and 2) report back with recommendations as to the proper role to be assumed by the Association in this regard.

The committee received a synopsis of definitions previously submitted, prepared for submission to *Arizona Medicine*, entitled "Quality as the Quoin* of Our Profession," (*Quoin (koin) n. cornerstone).

It being understood that this was th last meeting of the existing Long Rang Planning Committee, the membe determined that the newly appointe committee might concern itself with th issues of "minimum" care, "adequate care, and "basic" care, and Drs. Linkne Gordon and Sattenspiel agreed to serve a task force to study and develop a priori ized list of medical care, characterizin *necessary* versus *optional*. It was dete mined that the report of this task forc should be placed as an item of busine on the agenda of the first meeting of th new committee.

Future Meetings

The following institutions and organizations ha been accredited for their continuing medical educ tion programs by the Arizona Medical Associatio and/or the Accreditation Council for Continuin Medical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital, Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoen
St. Joseph's Hospital, Tucson
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations abo produce a variety of continuing medical educatio programs. Each accredited institution and orga zation is responsible for designating which of the programs meet ArMA's requirements for Category credit. Physicians who participate in prograr which are designated Category 1 by accredit institutions will receive Category 1 credit toward t ArMA Certificate in CME and the AMA's Physician Recognition Award

JUNE

diatrics in the Red Rocks — 8th Annual mmer Pediatrics Conference
ne 14-16, 1985. Poco Diablo Resort, dona, Arizona. Course will cover munology, Adolescent Medicine & phrology. Sponsor: University of Arizona alth Sciences Center, College of dicine, Office of Continuing Medical ucation and Outreach, Tucson. Contact: lly Dwan, Continuing Medical Education, iversity of Arizona College of Medicine, cson, Arizona 85724 — Call: (602) 626-73. Approved for 11 1/2 AMA Category 1 edit hours.

AUGUST

ral Health Conference
gust 1-3. Northern Arizona University. onsor/Cosponsor: U of A College of dicine Rural Health Office. Contact: ne Sassoon, Program Coordinator, Rural alth Office (602) 626-4469. Approved for tegory 1 credit.

MONTHLY OR WEEKLY

rine Medics Meeting
cond Tuesday of each month, Humana spital, Phoenix, 5:45 p.m. J. South assroom. Sponsor: Shrine Medics. ntact: Robert C. Briggs, M.D., 5121 N. ntral Ave., Phoenix, AZ 85012.

diatric Grand Rounds
uesday 7:30-8:30 a.m. in Phoenix:
t Tues.—Phoenix Children's Hospital.
d Tues.—Maricopa Medical Center.
d Tues.—Phoenix Children's Hospital.
n Tues.—St. Joseph's Hospital.
onsor: Phoenix Hospitals Affiliated diatric Program. Contact Paul S. rgeson, M.D., P.O. Box 2989, Phoenix, izona 85062. Approved for 1 hour per ssion Category 1 credit.

view of Forensic Pathology
rrent Case, Special Topics
hursday, weekly, 11:00 a.m., 120 S. 6th ve., Phoenix, AZ. Sponsor: Arizona ciety of Pathologists. Contact: H.H. arnitschnig, M.D., 120 S. 6th Ave., hoenix, AZ. Approved for 1 hour per ssion Category 1 credit.

ARIZONA STATE HOSPITAL

500 E. Van Buren, Phoenix, AZ 85008. ontact: Martin B. Kassell, M.D.
service Training
st Friday, 1:00-2:00 p.m., Room 5, ducation Building.
sychiatric Case Presentation
nd Friday, 1:00-2:00 p.m. Room 5, ducation Building.
linical Pathological Conference
rd Friday, 1:00-2:00 p.m., Room 5, ducation Building
pen Topic
h Friday, 1:00-2:00 p.m., Room 5, ducation Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.
Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.
Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.
Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.
Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.
Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.
Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.
Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed.D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.
Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.
CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.
Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.
Surgical Department Meeting
3rd Monday, 11:45 p.m.
Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.
Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.
Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.
Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.

Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713.
Contact: Eric G. Ramsey, M.D., Approved for Category 1 credit.
Surgical Conference
Weekly, Monday 8:00 a.m.,
Contact: Eric G Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m.,
Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m.,
Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008.
Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.
Tumor Board
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008.
Contact: Leonard Tamsky, M.D.
Anesthesiology Morbidity & Mortality Conference
Weekly, Mondays, 2:45 p.m.
Surgery Burn Grand Rounds
Weekly 7:30 a.m.
Medicine Chest
1st & 3rd Monday, 12 Noon.
Medicine GI
2nd & 4th Monday, 12 Noon.
Medicine Dermatology
5th Monday, 12 Noon.
Chest/Surgery
Weekly, Mondays, 1:30 p.m.
Ambulatory Pediatrics
Weekly, 2:45 p.m.
OB Problem Conference
Weekly, Tuesday, 7:30 a.m.
Orthopedic Conference
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.
Medicine Neurology
1st & 3rd Tuesday, 12 Noon.
Medicine Renal
2nd Tuesday, 12 Noon.
Emergency Medicine
4th Tuesday, 12 Noon.
OB/GYN—Tri-Hospital Perinatal Mortality
3rd Tuesday, 12 Noon.
OB/GYN—Departmental Grand Rounds
1st and 2nd Tuesday, 12 Noon.
GYN Endocrine Conference
4th Tuesday, 12 Noon.
Anesthesiology—General
Weekly, Tuesday, 2:45 p.m.
Review of GYN Pathology Slides
Weekly, Tuesday, 4:00 p.m.
Pediatric Grand Rounds
2nd Tuesday, 7:30 a.m.
Pathology Staff Inservice
Weekly, Wednesday, 6:45-7:50 a.m.
Anesthesiology Residents & CRNA's Conference
Weekly, Wednesday, 7:00 a.m.
OB/Neonatal Conference
Weekly, Wednesday, 7:30 a.m.
Surgery
Weekly, Wednesday, 7:00 a.m.
Surgery Hand Conference
Weekly, Wednesday, 7:30 a.m.
Psychiatry Staff
1st Wednesday, 11:00 a.m.
Psychiatry General Conference
2nd, 3rd, & 4th Wednesdays, 12 Noon.
Medicine Cardiology
1st Wednesday, 12 Noon.
Medicine Mortality
3rd Wednesday, 12 Noon.
Medicine Infectious Disease or Hematology
4th Wednesday, 12 Noon.
Pediatrics Renal/Endo Conference
1st Wednesday, 12:30 p.m.
Pediatrics Infectious Disease
4th Wednesday, 12:30 p.m.
Anesthesiology Staff Lecture
1st, 2nd & 4th Wednesday, 2:30 p.m.
Surgery Morbidity & Mortality Conference
1st, 2nd & 4th Wednesday, 3:30 p.m.
Anes/Surgery Joint Traum Conference
3rd Wednesday, 3:30 p.m.
Surgery Urology Staff
3rd Thursday, 7:30 a.m.
Anesthesiology Journal Club
4th Thursday, 8:00 a.m.
Ambulatory Pediatrics
Weekly, Thursday, 8:00 a.m.
Surgery Burn Chart Rounds
1st, 2nd, & 3rd Thursdays, 8:00 a.m.
Burn Mortality Conference
4th Thursday, 8:00 a.m.

Medicine Problem Case Conference
1st Thursday, 12 Noon.
Medicine Rheumatology
2nd Thursday, 12 Noon.
Medicine Staff & House (Separate)
4th Thursday, 12 Noon.
OB/GYN Resident Conference
1st, 2nd & 3rd Thursday, 12 Noon.
Vascular Surgery Conference
1st, 2nd & 4th Thursday, 12:30 p.m.
Combined GI & Surgery Conference
3rd Thursday, 12:30 p.m.
Anesthesiology Chief Resident's Lecture
Weekly, Thursdays, 2:45 p.m.
Orthopedic Surgery Basic Sciences
Weekly, Thursdays, 5:30 p.m.
OB/Surgery Pathology
Weekly, Fridays, 7:30 a.m.
Orthopedic Surgery Fracture X-Ray Conference
Weekly, Fridays, 7:30 a.m.
Medicine Endocrinology
1st Friday, 12 Noon.
Medicine Infectious Disease
2nd Friday, 12 Noon.
Medicine/Radiology Conference
3rd Friday, 12 Noon.
Medicine Cardiology
4th Friday, 12 Noon.
OB/GYN Tumor Board
4th Friday, 12 Noon.
Surgery Tumor Board
1st, 2nd & 3rd Friday, 12 Noon.
GYN Endo Conference
1st & 3rd Friday, 12:30 p.m.
Pediatric Radiology Conference
1st & 2nd Friday, 12:30 p.m.
Pediatric Dermatology
3rd Friday, 12:30 p.m.
Pediatric Infectious Disease
4th Friday, 12:30 p.m.
Surgery Rehab Rounds
Weekly, Friday, 1:30 p.m.
Surgery Selected Readings
2nd & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201
Contact: E. John Wickman, M.D.
Continuing Medical Education Programs
Tuesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015.
Contact. J. Burr Ross, M.D., Approved for Category 1 credit.
Clinical Conferences
1st, 2nd & 3rd Tuesdays, 12 noon, 5th Floor Auditorium.
CPC or Medical-Surgical Forum
4th Tuesday, 12 noon, 5th Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016.
Contact: Leland L. Fairbanks, M.D., Approved for Category 1 credit.
Clinical Staff Teaching Conference, Rm. A
Weekly, Wednesday, 8:00-9:00 a.m.
Family Practice/Emergency Room Teaching Conference
Thursday, Weekly, 7:30-8:30 a.m., Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036.
Contact: George Scharf, M.D. Approved fc Category 1 credit.

onthly Medical Education Seminar
d Monday, 6:30 p.m., Kiva Conf. Rm.
inical Conferences
eekly, Tuesday, 12:30 p.m., Kiva
onference Rm.
sychiatric Clinical Conference
nd Friday, 11:30 a.m., B-Wing Conf. Rm.,
ontact: Medical Staff Secretary.
umor Board Conference
eekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

400 East Osborn, Scottsdale, AZ 85251.
ontact: Tom Disney, M.D., Approved for
ategory 1 credit.
amily Practice Conference
st Monday, 12:30 p.m., Doctors' Lounge.
mergency Medical Services Conference
nd Monday, 12:30 p.m., Doctors' Lounge.
eurology/Neurosurgery Conference
rd Monday, 12:30 p.m., Doctors' Lounge.
PC Conference
th Monday, 12:30 p.m., Doctors' Lounge.
ediatrics Conference
th Monday, 12:30 p.m., Doctors' Lounge.
ulmonary Conference
st Tuesday, 12:30 p.m., Doctors' Lounge.
ardiology Conference
nd Tuesday, 12:30 p.m., Doctors' Lounge.
urgery Conference
rd Tuesday, 12:30 p.m., Doctors' Lounge.
esident Grand Rounds
th Tuesday, 12:30 p.m., Doctors' Lounge.
ledical Subspecialties
th Tuesday, 12:30 p.m., Doctors' Lounge.
ronephrology Conference
rd Thursday, 12:30 p.m., Doctors' Lounge.
umor Conference
th Thursday, 12:30 p.m., Doctors' Lounge.
i/Med/Surg/Radiology Conference
nd Friday, 12:30 p.m., Doctors' Lounge.

ST. LUKE'S HOSPITAL MEDICAL CENTER

25 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.
Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am.,
Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium.
Chest Conference
4th Monday, 12:15 p.m., Phillips
Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips
Auditorium.
Psychiatry Conference
3rd Thursday, 7:00 a.m., Auditorium.
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m., Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.
Pediatric Grand Rounds
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.
ECG Conference
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
Medical Grand Rounds
Weekly, Wednesday, 8:00 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 8:00 a.m., PIMC.
Visiting Professor Informal Presentation
Weekly, Thursday, 9:30 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 12:30 p.m., PIMC.
Nephrology Conference
Weekly, Fridays, 12:30 p.m., Pediatric Department.

ST. JOSEPH'S HOSPITAL TUCSON

350 N. Wilmot Road, Tucson, AZ 85711
Contact: Yvonne Clingerman, Medical Staff Office. Approved for Category 1 credit.
Current Concepts in Medicine
Weekly, Tuesday, 12 Noon, Auditorium
A Talk on Allergies
Weekly, Tuesday, 12 Noon, Auditorium
Surgery Department Conference
4th Monday, 12 Noon, Auditorium
Hematology/Oncology Conference
Last Wednesday, 12 Noon, Contact: Nick Mansour, M.D.
Ophthalmology Case
2nd Tuesday, 7:30 a.m.
Ophthalmology Society
4th Tuesday, 6:00 p.m., Auditorium
Contact: Leonard Joffe, M.D.

ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.
Monthly Specialty Conference — Dept. of Surgery
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.
Joint Liver Conference - Lab Conference Room
2nd Monday of each month - 12:00 noon.
Grand Rounds: Medical, Surgical, Family Practice, Pathology, Radiology
Weekly, Thursday.
Emergency Medicine Lectures
Weekly, Thursday, 8:00 a.m., Century Rm. A.
Cardiology Conference
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon, Contact: M. Maximov, M.D.
Dermatology Conference
4th Monday, 5:00 p.m., Contact: R. Miller, M.D.
Endocrinology Conference
4th Monday, 12 Noon, Contact: M. Parker, M.D.
Nephrology Conference
2nd Monday, 12 Noon, Contact: Stephen Seltzer.
Psychiatry Department Meeting
3rd Monday, 12 Noon, Contact: Howard Winkler, M.D.
Perinatal Conference
2nd Tuesday, 7:00 a.m.
Surgical Conference
2nd Tuesday, 7:15 a.m.
Hematology Conference
4th Tuesday, 12 Noon, Contact: Gerald Giordano, M.D.
Pulmonary/Infectious Disease Conference
Weekly except 4th, Tuesday, 12 Noon, Contact: B. Friedman, M.D.
Orthopedic Conference
1st Tuesday, 7:30 p.m., Contact: Jay Katz, M.D.
Pediatric Grand Rounds
1st & 3rd Tuesdays, 12:30 p.m., Contact: Dr. Lightner.
Neurophysiology Conference
2nd Tuesday, 5:00 p.m., Contact: Robert Foote, M.D.
Clinical Pathology Conference
Last Wednesday, 8:00 a.m., Contact: Dr. Fuchs.
Medical Conference
Weekly, Wednesday, 8:00 a.m., Contact: M. Fuchs, M.D.
Neuorology-Neurosurgery Conference
Weekly, Wednesday, 12 Noon, Contact: H. W. Buschsbaum, M.D.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m., Contact: N. Komar, M.D.
Tumor Conference
Weekly, Thursday, 12 Noon, Contact: Cancer Committee.
GI Conference
Weekly, Friday, 12 Noon, Contact: Charles Sanner, M.D.
Interhospital Nuclear Medicine Conference
Weekly, Friday, 7:15 a.m., Contact: S.V. Hilts, M.D.
OB/GYN Conference
1st Friday, 7:30 a.m., Contact: Charles Parker, M.D.
OB/GYN Pathology Conference
3rd Friday, 7:30 a.m., Contact: R. Spark, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.

Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5, Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5, Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435, Contact Dr. Benene, Ext. 786
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134, Contact: Dr. Russo, Ext. 362
and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134, Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference
1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.
G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon, Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410, Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m., Room 4115, Contact: Dr. Rohwedder, Ext. 388.

Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435, Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.
Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5, Contact: Dr. Zeller, Ext. 272
Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435, Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512, Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435, Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134, Contact: Dr. Haddad, Ext 418.
Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Contact Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134, Contact: Dr. Cintora, Ext. 417.

PRESCOTT VETERANS ADMINISTRATION HOSPITAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
Medical Rounds
1st & 3rd Thursdays, 10:00 a.m.-2:30 p.m.
Surgical Rounds
4th Thursday, 10:00 a.m.-2:30 p.m.

TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixtieth Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
Medical/Surgical Chest Conference
Weekly, Tuesday, 2:00 p.m., Contact: Dr. Young.
Medical Grand Rounds
Weekly, Wed., 12:00-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC), Contact: Jay Smith, M.D.
Surgical Grand Rounds
Weekly, Wed., 4:00 p.m., Contact: Dr. Putnam.
Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m., Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107, Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Conf.
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m., Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma, Az 85364. Contact: Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.
Anesthesiology Board Review Conferenc
2nd & 4th Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contacts: Drs. Vaughn & Kryc.
Anesthesiology Basic/Clinical Sciences Lectures
Weekly, Thursday, 4:00-5:00 p.m., Room 5403.
Anesthesiology Case Discussion
Weekly, Wednesday, 7:00 a.m., AHSC, Dining Rm. C&D.
Anesthesiology Resident Presentation
1st Monday, 4:00-5:00 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
Cancer Center Tumor Board Seminar
3rd Tuesday, Monthly, 12:00-1:00 p.m., HSC Auditorium, Contact: Cancer Center
Cardiac Catheterization Conference
Weekly, Friday, 4:30 p.m., Contact: Dr. Ewy.
Cardiology Non-invasive Conference
Weekly, Friday, 3:30 p.m., Contact: Dr. Ewy.
Tucson Cardiac Society
1st Thursday, 6:30 p.m., Arizona Inn, Contact: Karen Garcia.
Clinical Immunology, Allergy & Rheumatology Rounds
Every Friday, Noon-1:00 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
Cerebrovascular Disease Conference
Mondays, 5:00-6:00 p.m., Weekly, Rm. 5505., Contact: Jerry Goldstone, M.D. Dept. of Surgery.
Dermatology Conference
4th Monday, 5:15 p.m., AHSC, Contact: Dr. R. Friedman.
Dermatology Rounds
Weekly, Wednesday, 11:30 a.m., Contact: Dr. Lynch.
Ear, Nose & Throat Conference
Weekly, Wednesday, 4:00 p.m., Contact: Dr. S. Coulthard
Endocrinology Seminar
Weekly, Thursday, 12:00-1:00 p.m., Contact: Dr. Johnson.

Emergency Medicine Grand Rounds
Tuesdays, 9:00 a.m., AHSC, Contact: Dr. Sanders.
GI Pathology Conference
4th Friday, 1:30 p.m., AHSC, Contact: S. Paplanus.
GI Radiology Conference
2nd & 4th Mondays, 7:30 a.m., AHSC, Contact: Dr. T. Hunter.
Head & Neck Tumor Management Conference
Weekly, Wednesday, 4:00 p.m., Contact: Dr. Murrell.
Hematology-Oncology Clinical Conference
1st & 5th Tuesdays, Noon-1:00 p.m., Rm. 6505. Contact: S. Salmon, M.D., Dept. of Internal Medicine.
Medical Grand Rounds
Weekly, Wednesday, 12:00-1:00 p.m., AHSC, Contact: Dr. J. Smith.
Morbidity/Mortality in E.M.
2nd Tuesday, 9:00 a.m., AHSC, Contacts: Drs. Hughes & Alcorn.

euromuscular Disease Conference
eekly, Friday, 11:30 a.m.,
ontact: Dr. Stern.
europathology Case Review
eekly, Friday, 8:30 a.m., UAHSC,
ontact: Dr. P. Johnson.
euroradiology Conference
eekly, Thursday, 5:00 p.m.,
ontact: Dr. P. C. Christenson.
euromuscular Journal Conference
nd & 4th Thursdays, 7:00-9:00 p.m.,
ontact: Dr. Stern.
eurosciences Seminar
eekly, Tuesday & Friday, 7:30 a.m.,
HSC, Contact: Dr. C. Bamford.
uclear Medicine
eekly, Thursday, 7:30 a.m., AHSC
adiology Conference Rm.
B/GYN Lectures
eekly, Friday, 3:30 p.m., AHSC,
ontact: Dr. C. D. Christian.
phthalmology Grand Rounds
rd Friday, 7:30 a.m., AHSC,
ontact: Dr. J. Herschler.
phthalmology Retina Fluoro. Conference
eekly, Thursday, 5 p.m., AHSC,
ontact: Dr. H. Cross.
rthopedic Rounds
aturday, 8:00 a.m., Contact: Dr. Peltier.
ain Conference
rd Monday, 4:00-5:00 p.m., AHSC Dining
m. C&D, Contact: Drs. Hameroff & Cork.
athology Conference
eekly, Monday, 12 noon, AHSC,
ontact: Dr. C. D. Christian.
athology Seminar
eekly, Friday, 4:30-5:30 p.m., AHSC,
m. 5120. Contact: Dr. P. Finley.
ucson Pathologist Conference
st Monday, 7:30 p.m., AHSC,
ontact: Dr. A. R. Graham.
ediatric Grand Rounds
nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
ontact: Dr. H. Thompson.
ediatric Problem Patient Conference
eekly, Wednesday, 8:00 a.m.,
ontact: Dr. Lillian Valdes-Cruz.
ediatric Research Forum
eekly, Tuesday, 7:30 a.m.,
ontact: Dr. Otakar Koldovsky.

Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.
Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.
Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.
Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.
Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.
Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.
Poison Control
Weekly, Wednesday, 4:00 p.m.
Contact: Dr. Tong.
Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.
Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.

Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.
Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.
Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.
Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.
Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.
Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.
Trauma Conference
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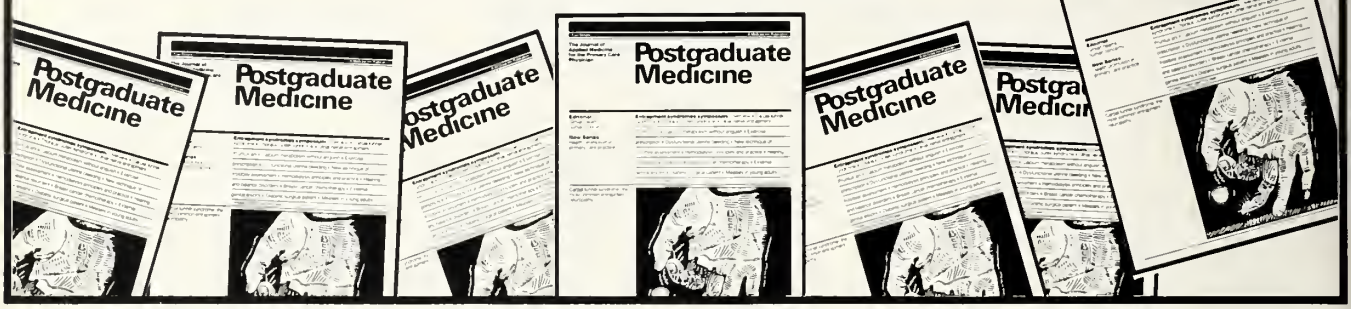
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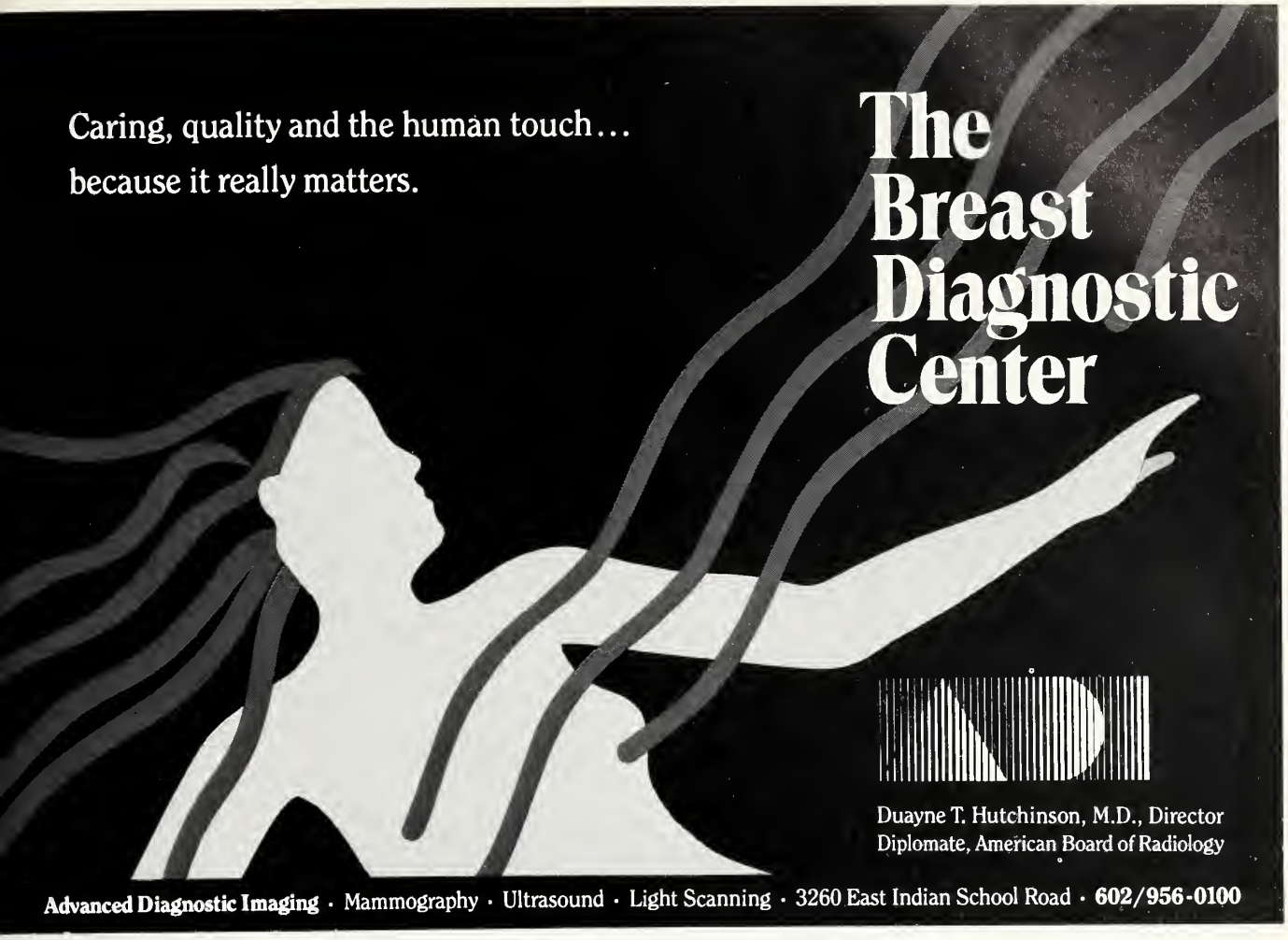
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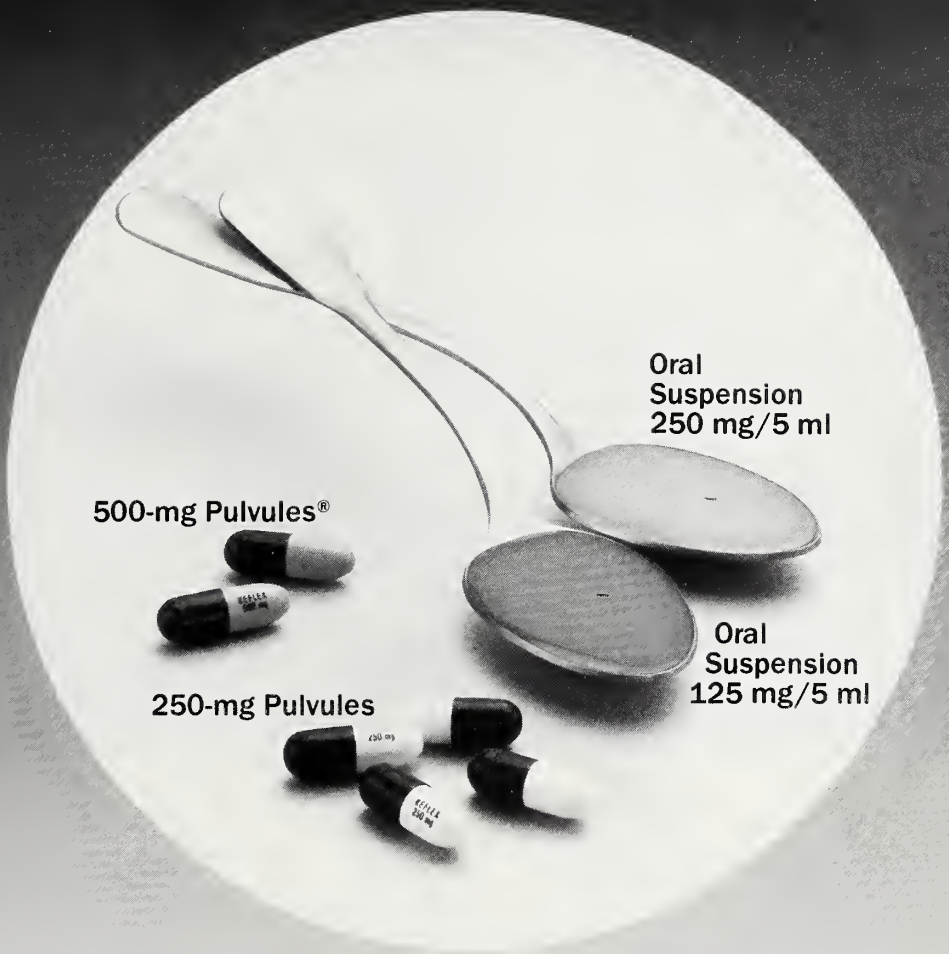
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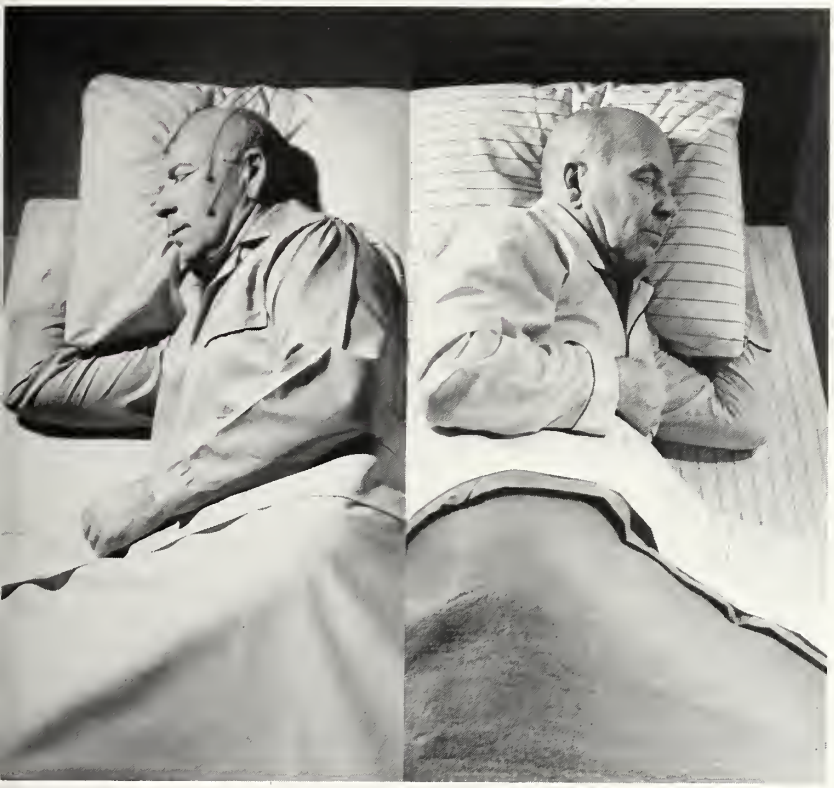
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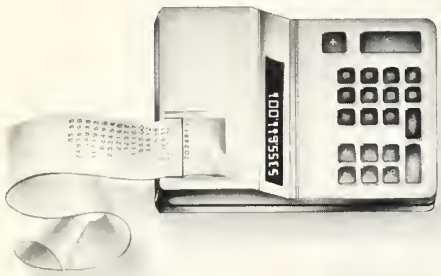
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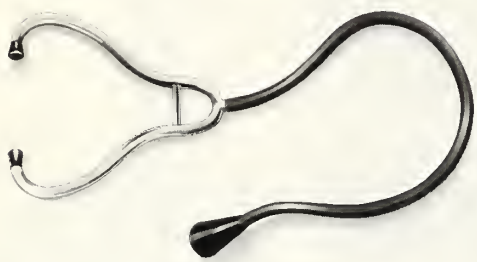
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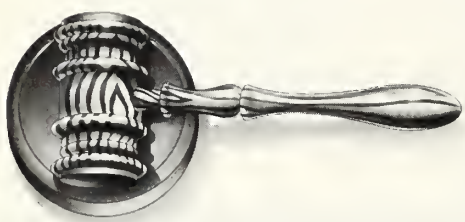
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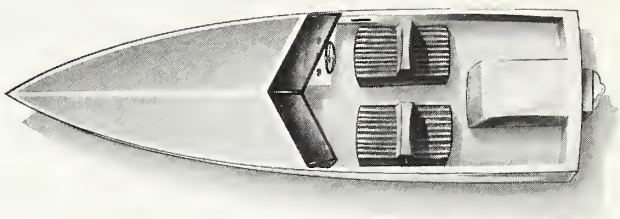
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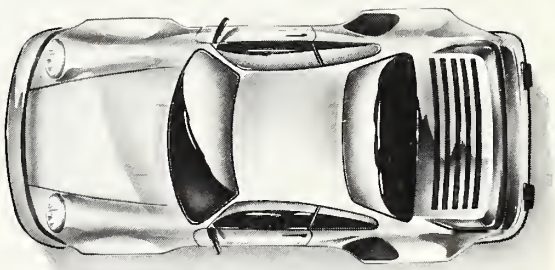


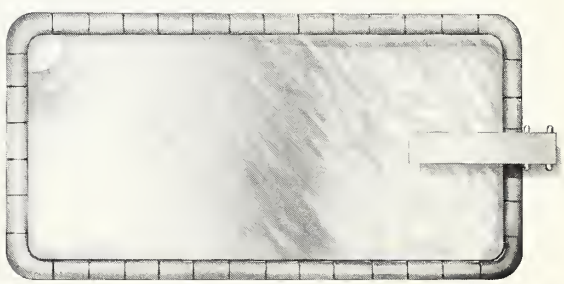
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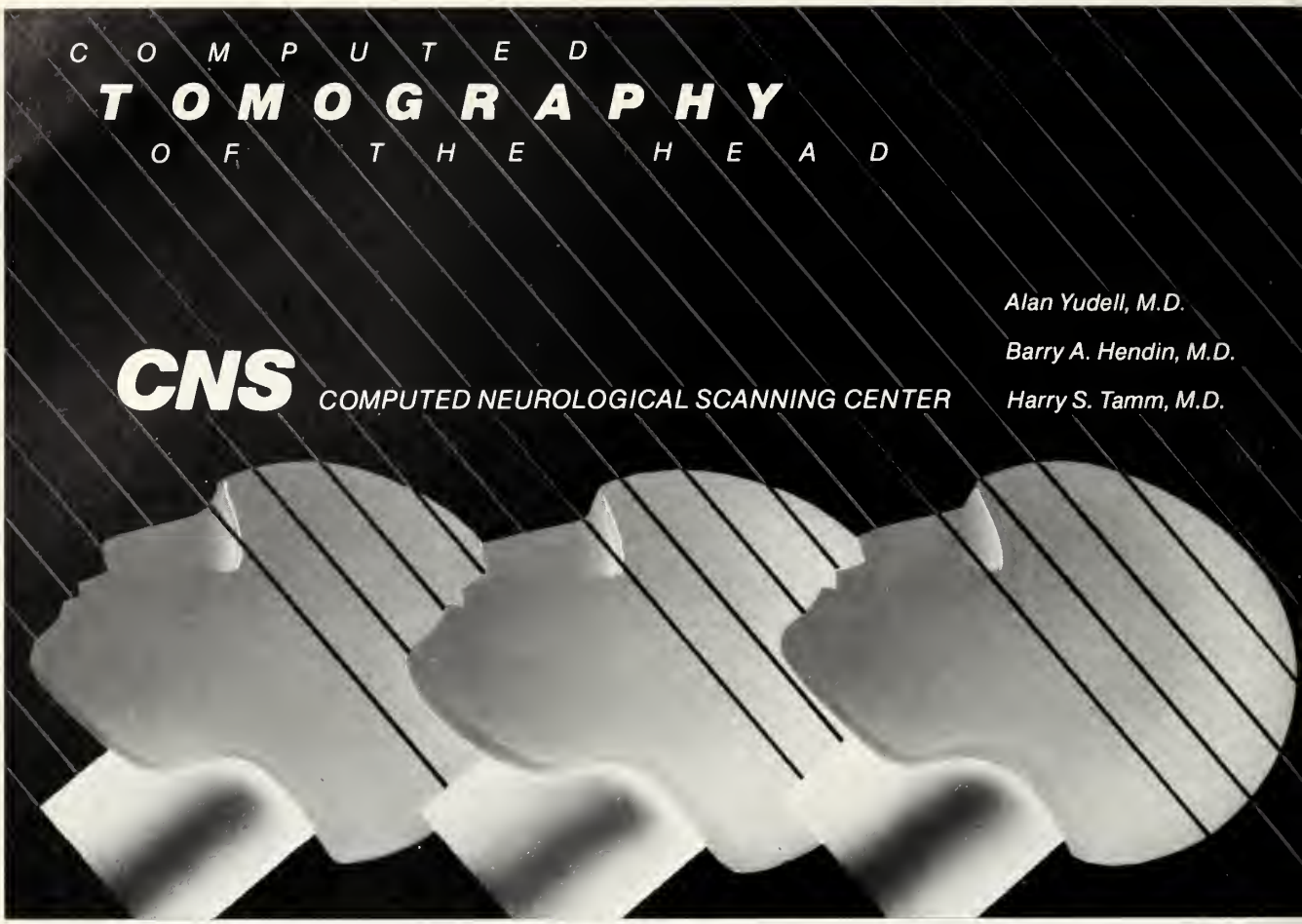
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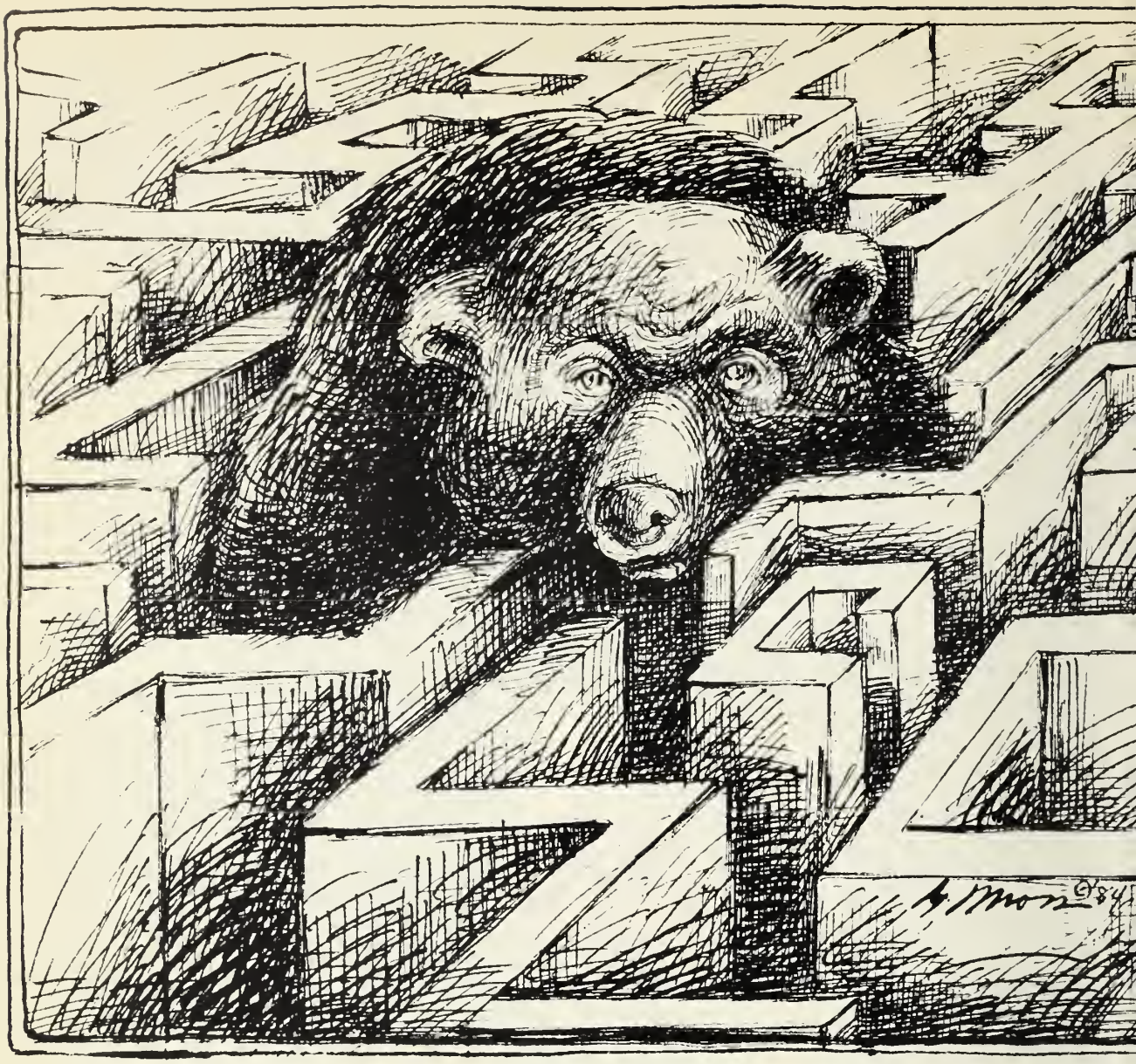
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troduction

The spectrum of patients presenting with a "cardio-yopathy" includes those who have dilatation of both entricular chambers combined with global impairment systolic function. These subjects are considered to ave a dilated cardiomyopathy[1] of "unknown" etiology. ecent evidence indicates that active lymphocytic yocarditis can be identified in many such cases by sing the technique of percutaneous endomyocardial opsy (EMB).[2-5] Furthermore, uncontrolled clinical studies indicate that treatment with immunosuppressive agents may result in histologic and/or clinical improvement in some of these patients.[2,5-8]

om: Good Samaritan Medical Center Institute for Cardiovascular seases, 1111 East McDowell Road, Phoenix, Arizona 85006. Supported in part by the E. Nichols Memorial Fund and The Biomedical esearch Memorial Fund, Inc. Reprint requests to Kenneth B. Desser, .D., Good Samaritan Medical Center, P.O. Box 2989, Phoenix, Arizona 85062.

Viral Myocarditis and Cardiomyopathy

Myocarditis progressing to cardiomyopathy has been attributed to a large number of infective agents, including bacterial, fungal, rickettsial, and protozoal organisms. However, the most common cause of myocarditis in North America is the virus.[9] Specifically, Coxsackie B, an RNA virus of the picornavirus type, has been implicated as causing dilated cardiomyopathy.[10] Additionally, experimental models of Coxsackie B myocarditis in mice closely resemble those encountered clinically in humans.[11] Briefly stated, viral infection stimulates both neutralizing antibody production and a mononuclear inflammatory cell infiltrate, which rapidly suppress viral growth. A viral antigen located on the plasma membrane of the myofibril is the target of cytotoxic T lymphocytes, resulting in cellular necrosis.[9] It is possible that a defect in suppressor cell function contributes to this process.[12,13] A second group of cells, belonging to the "natural killer" group and capable of lysing myofibers not infected by the virus, are also produced. These may continue to evoke tissue necrosis long after the virus has been cleared from the heart.[11] The persistence of a chronic inflammatory cell infiltrate and myofibrillar necrosis, hallmarks of active lymphocytic myocarditis, form the rationale for the use of immunosuppressive therapy in its treatment.

Endomyocardial Biopsy

The increased use of myocardial biopsy in recent years is based on advances in the field of cardiac transplantation, where serial sampling is necessary for the detection of early allograft rejection.[14] The technique has evolved from thoracotomy and unguided percutaneous approach[15,16] to the currently employed EMB method. Utilizing a right internal jugular vein approach under fluoroscopic control, several small myocardial samples are taken from the lower portion of the interventricular septum of the right ventricle by means of a bioptome.[17] The Stanford University group has used EMB in more than 1300 cases with no fatalities and a complication rate of less than 1%. The most common adverse effects are cardiac perforation with tamponade, and pneumothorax.[17]

It is important that the tissue samples be analyzed by a pathologist who is experienced in their interpretation. Recently, criteria have been established and standardized for the diagnosis of active myocarditis.[18] Increasing use of EMB has underscored the unreliability of clinical and traditional noninvasive laboratory evaluation for the accurate diagnosis or exclusion of active myocarditis.[2,4,8,19-21] EMB has therefore evolved as a "gold standard" when therapeutic decisions are being made regarding a variety of cardiac conditions. In addition to cardiac transplant rejection and myocarditis, these include doxorubicin cardiotoxicity,[22-25] sarcoidosis,[26] hemochromatosis,[27] and polymyositis.[28] Recommended indications for EMB have recently been published.[21]

Immunosuppressive Therapy in the Treatment of Myocarditis

Attempts to suppress ongoing immunologically-mediated inflammation and necrosis form the basis for immunosuppressive therapy. Mason, et al.[6] reported dramatic clinical and histologic improvement in several patients with myocarditis after treatment with prednisone alone or the latter in combination with azathioprine. Furthermore, withdrawal of therapy was followed by return of both myocardial inflammation and congestive failure. When immunosuppression was reinstituted, the patients again had clinical and histological improvement.[6] Similar findings have been reported by other investigators.[2,3,5,29,30] It should be emphasized that while results are encouraging, controlled clinical trials are needed to determine whether this form of therapy can alter the natural history of patients with myocarditis.[9]

Future Consideration

Although EMB is now considered a relatively safe technique when performed by experienced personnel, a noninvasive marker for myocardial inflammation would be useful not only for diagnosis but as an aid to assess the therapeutic response. Currently, Gallium-67 citrate radionuclide imaging appears to be the most promising. O'Connell and co-workers[31] have demonstrated that some patients with positive cardiac uptake on Ga-67 scans, who were treated with immunosuppressives, improved on serial imaging. In this regard, these investigators have shown the utility of Gallium-67 as a screening test for suspected cases of myocarditis, or for following patients with proven myocardial inflammation.[32]

A subset of patients has been identified who present with life-threatening ventricular arrhythmias in the absence of abnormalities on cardiac catheterization. Such subjects manifest myocarditis on EMB. Vignola and co-workers[33] reported a group of subjects with myocarditis who had ventricular arrhythmias. When immunosuppressive agents were administered, there was a resolution of the rhythm disturbances which could not be induced by programmed stimulation of the ventricles. This was noted when the study group was not taking antiarrhythmic agents and there was a concomitant reduction of the inflammatory cell infiltrate on EMB. The true incidence of myocarditis in patients who present primarily with arrhythmias is unknown, but two additional studies point out that the cardiac histology in these cases may be the only abnormality found.[34,35]

Summary

Dilated cardiomyopathy may be a late consequence of inflammatory myocardial disease. While a large number of infective agents have been reported to cause myocarditis, viruses are the most common cause in this country. In the Coxsackie B murine model, initial infection is followed by immunologically-mediated myofibrillar necrosis, perhaps associated with defective suppressor cell function. Right ventricular EMB and subsequent histologic examination has become the standard marker for the diagnosis of active myocarditis. Noninvasi techniques such as Gallium-67 scanning may prove u ful in the future. Finally, the treatment of myocard with immunosuppressive drugs has correlated well w both clinical and histologic improvement in several c studies and uncontrolled trials. The precise role of t form of treatment in managing patients with myocard awaits the results of upcoming, randomized, clini trials.

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Accutane (Isotretinoin) Revisited:

Severe Birth Defects from Acne Therapy

Ronald C. Hansen, M.D.

Editors:
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Criteria for the usage of isotretinoin for severe acne were reviewed in this column nearly two years ago.[1] At that time, teratogenicity was suspected from animal studies, but there were no human data.[2-4] In the interim, severe birth defects associated with isotretinoin usage during the first trimester have been documented.[5-10] In fact, preliminary data suggest that isotretinoin may be one of the most severe human teratogens yet developed and commonly prescribed. This communication describes the teratogenic complications of isotretinoin usage, and suggests an approach to minimize this risk, so that this valuable agent can be kept on the market, and safely used for those patients who truly need it.

Nature of the Isotretinoin Embryopathy

A recurring pattern of malformation has emerged, which implicates isotretinoin as the teratogen.[6] The defects include: severe brain malformations (both hydrocephalus and microcephaly),[9] severe malformations of the external ear (including microtia), and prominent congenital heart defects (especially ventriculoceptal defect and transposition of the great vessels). In addition, optic nerve hypoplasia, cleft palate, dysmorphic facies,[8] facial palsy and isolated ear deformities have been seen. Furthermore, numerous cases of spontaneous abortion have been associated.[6,7]

Data are being collected regarding the percentage risk of isotretinoin exposure during the first trimester, but no precise risk can yet be assigned. However, the majority of early reported infants exposed to isotreti-

From: Department of Internal Medicine, Section of Dermatology, University of Arizona Health Sciences Center, Tucson, Arizona. Reprints will not be available.

noin did have deformities,[5] and it is likely that the risk is extremely high. It is possible that one-third will be deformed, one-third spontaneously aborted, and one-third born normal. Such estimates are based on very preliminary information, however. Since the chemical is cleared rapidly after it is discontinued, it is assumed that there is no teratogenic risk one to two months after stopping isotretinoin. Furthermore, there is no evidence that males taking isotretinoin produce faulty sperm or father deformed infants.

Clearly, no physician would ever wish to risk such an unfortunate complication of isotretinoin therapy. Obviously, teenagers and their families similarly want to avoid such a problem. However, the pressure to relieve the troubled teenager of her acne lesions is sometimes irresistible, and physicians are pressured into prescribing isotretinoin for nonscarring acne, or acne where simpler and safer approaches have not been employed. Accordingly, it is likely that far too many isotretinoin prescriptions are now being given to adolescent and adult women, and that the teratogenicity will continue to be a problem. Although a thorough explanation of the teratogenic potential of the agent prior to therapy may be sufficient to relieve the physician of legal responsibility, a severely deformed infant remains a tragedy, regardless of medicolegal issues. Accordingly, certain assumptions regarding teenage sexuality should be emphasized.

Assumptions When You Consider Isotretinoin Therapy in a Teenage Female Patient

1. *Teenagers are sexually active until proven otherwise.*

Although an obvious overstatement, this is perhaps the safest assumption when prescribing isotretinoin. If teenagers are questioned about their sexuality in the presence of their parents, sexual activity will be denied. All too often we fail to interview the adolescents separately, and hence will seldom get confirmation of their sexual activity.

2. *No contraceptive program is 100% effective.*

This statement applies even to oral contraceptive agents, clearly the most effective approach next to sterilization. Accordingly, even with compliant adults, pregnancies will be seen if thousands of female patients are treated. We observed a pregnancy during isotretinoin therapy in a married, registered nurse in her twenties, who definitely understood the risks.

3. *Adolescents are quite unreliable relative to contraceptive behavior.*

This has been well established, and we should assume that whatever contraceptive failures might occur with a given approach, there will be more such failures in adolescents.

4. *Pregnancies in adolescents are frequently denied until late in the pregnancy.*

Hence, the usual time frame for consideration of termination of pregnancy may well be past by the time the teenager admits to her being pregnant.

5. *Abortion is not a viable option for many individu in this country.*

We must respect the fact that numerous individu will not condone abortion, and that these persons m carry a deformed infant to term.

6. *Because isotretinoin works so well, clearing seve acne in most patients, and thereby improving se image, sexual activity may actually increase towards t end of isotretinoin therapy.*

This is a totally unproven statement, but makes co mon sense. Accordingly, an adolescent girl who ma tains that she is sexually inactive at the beginning therapy, may well have become active toward the end treatment.

What then can we do to minimize the risk of t teratogenicity in our female patients with significa acne? Certain rules of thumb may be helpful in t regard:

1. Restrict the usage of isotretinoin in both ma and females to those criteria for which it was releas and which are endorsed by its manufacturer. That is say, it should be reserved for severe, scarring, recal trant acne, resistant to conventional therapy includi antibiotics. More liberal usage than this in fem patients raises the risk mentioned above to isotretin embryopathy.

2. Attempt to be even more stringent in avoidi isotretinoin usage in female patients, even where th do meet criteria of scarring acne refractory to antibio therapy. For example, estrogen therapy in the form birth control pills might be considered a prelimina step, prior to beginning isotretinoin therapy. If the o contraceptive agent eliminated the acne, which is oft the case where 50 micrograms or more of estrogen a used, one might avoid isotretinoin therapy. If the estr gen therapy was ineffective, one would still have t patient on effective contraception as one began isotre noin. Obviously, risks and benefits of estrogen thera also need to be carefully explored with the patient a family. Consider denying isotretinoin therapy unl oral contraception is established.

3. Make sure there is some written indication th the teratogenic potential has been discussed, and th the patient fully understands the risks of pregnancy usually merely have the patient sign a progress note the chart to this effect, although separate sheets for su informed consent are also advisable.

4. Pregnancy tests at the beginning of isotretin therapy, and with each subsequent visit are oft advised. I do not feel as strongly about this issue as t education and informed consent issue, but it certai does document the physician's ongoing concern abo the priority of avoiding pregnancy.

5. At each visit, review again not only the minor si effects which most patients experience,[1] but also t embryopathy question, in case the memory of previo discussions has faded.

ıe availability of isotretinoin is perhaps the most ificant advance in acne therapy in the past 20 years.[2-] owever, the production of numerous deformed nts in the context of treating a cosmetic problem es serious ethical and medicolegal issues. Can we tinue to have this preparation available under these umstances? Can it be used safely at all in the female ents in the childbearing years? There are no final wers to the questions raised, but it is clear that ents and physicians must use this agent carefully, if are to keep it in our therapeutic armamentarium.

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Obstetrics/ Gynecology

Fetal Movement — Its Use for Fetal Assessment

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John Elliott, M.D.

Fetal movement as an expression of fetal well being *in utero* has been gaining attention and is being used throughout the world. The purpose of this article is to define the significance of fetal movement and the rationale for its use as a means of fetal assessment.

In 1978, one percent (1%) of all pregnancies recorded in the United States resulted in intrauterine fetal deaths.[1] Many of these were considered "low-risk" pregnancies with apparently normal fetuses. Freeman, et al.[2] collected data in a prospective collaborative multicenter study on approximately 7,500 high-risk patients between 1976 and 1980. He found that in over 1,500 patients who underwent nonstress testing, the corrected antenatal death rate was 3.2/1,000 and in over 4,600 patients who had contraction stress tests, the corrected antenatal death rate was .4/1,000. Based on this data, high-risk pregnancies that are being tested by fetal monitoring have a lower mortality rate than supposed "low-risk" pregnancies. Therefore, it could be said that the high-risk pregnancy where the fetus is being tested is now low-risk and the "low-risk pregnancy," that is not being tested is now "high-risk."

Routine antepartum fetal testing would be needed on all patients to reduce preventable fetal loss to a minimum. Estriols, nonstress testing, contraction stress testing, and biophysical profile scoring by ultrasound are not practical for mass screening of low-risk pregnancies. However, maternal perception of fetal movement appears to be a practical alternative.

Maternal perception of fetal movement is the oldest and least expensive technique for monitoring fetal well

From: Maternal-Fetal Medicine, Good Samaritan Medical Center, Phoenix, Arizona. Reprint requests to Daniel F. O'Keeffe, M.D., Good Samaritan Medical Center, Phoenix, Arizona 85006.

being. Ninety percent (90%) of patients' perceptions of fetal movement correlate with actual movement recorded by ultrasound. Rayburn, et al.[3] noted that a normally active fetus is associated with either a negative contraction stress test or a reactive nonstress test 97% of the time. Therefore, maternal perception of fetal movement would correlate well with other monitoring techniques of fetal-placental function.

The assessment of fetal movement may serve as an indirect measure of dysfunction of the fetoplacental unit, compromise of fetal central nervous system integrity and deranged fetal metabolism. Periods of prolonged fetal inactivity greater than one hour are not thought to represent physiologic fetal rest periods.[4] Fetal movements which no longer remain relatively constant in strength and quality may be reflective of an inadequate utero-placental unit. The lack of vigorous movement can be experienced in 4% of pregnancies and occurs with twice the frequency in high-risk versus low-risk pregnancies. Approximately 50% of these fetuses should be expected to be distressed or stillborn at delivery.[5]

Although not a direct test of placental function, fetal activity serves as an alerting signal of impending fetal jeopardy. If the patient reports decreased fetal movement, the decision to intervene and deliver the fetus in a pregnancy should not be based solely on decreased fetal movement. Merely reassuring the patient that the fetal heart tones are strong is not enough. A nonstress test, contraction stress test or biophysical profile should be done to confirm fetal distress.

Date: _____

FETAL MOVEMENT CHART INSTRUCTIONS: A daily diary of your baby's movements can provide useful information. Select one hour convenient to you to count each time your baby moves. Lying on your left side while counting improves the circulation to the baby and often makes a baby more energetic. If the baby should move less than four times in an hour, you should go to Good Samaritan Labor and Delivery Department for fetal heart rate monitoring and further evaluation of the baby's well being. Otherwise bring this card with you to each office visit.

Date	Hour	Total	Date	Hour	Total

00-0681 6-84

Figure 1

There are several advantages of fetal movem counting. Charting of fetal activity by a compli patient requires no cost or equipment, and no tech cian or physician time is necessary. Data may be c lected at home or in the hospital at any time. H patient compliance secondary to patient acceptabilit the general rule. It is simple, safe, and noninvasive. T patient has a feeling of active participation in the care herself and her fetus. Like other surveillance techniqu fetal movement is limited in predicting most major m formations or fetal distress in labor. The only limitatio patient compliance and acceptability.

High-risk pregnancies have traditionally been mo tored by various fetal monitoring techniques. The use fetal movement charting on a daily basis in conjuncti with contraction stress tests, nonstress tests, or biophy cal profiles is recommended. The use of a fetal mo ment chart in all pregnancies should be stron considered to help prevent unnecessary stillbirth in "low-risk" pregnancies. The fetal movement ch should be started at the time one would intervene if fetus was in jeopardy approximately 26 weeks.

The literature contains at least seven differ methods of recording daily fetal activity.[4] We at Gc Samaritan Medical Center have chosen the c reported by Rayburn, et al.[3] because of its convenier and simplicity. Patients are asked to lie in the late recumbant position, preferably in a quiet room and concentrate on fetal motion for one hour. Four or m movements are required during this hour. Perceiv movement is routinely recorded and placed on des nated charts, which are then brought with the patien each office visit. If there are less than four moveme per hour, the patient is instructed to notify her physic immediately and come to the hospital for further testi e.g., nonstress testing, contraction stress testing, and biophysical profile.

Patient compliance has been generally favorable both an out-patient and/or in-patient basis.

Summary

Maternal perception of fetal movement is an easy use, safe, reliable, low-cost screening test which appe to be of great benefit as a day to day assessment high-risk pregnancies. As stated, the low-risk pregna is now where the majority of stillborns are seen appears reasonable that this technique could now used in this population. With the effective use of f movement perception in all pregnancies, the stillb rate could conceivably be reduced to the lowest po ble level.

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Radiology

Answer on page 368

ıse of the Month No. 77

ınna Kucharski
ınn C. Cook, M.D.
muel J. Hessel, M.D.
ıathan M. Levy, M.D.

or:
athan M. Levy, M.D.

68-year-old woman came to the Emergency Room
nplaining of severe chest pain. She was found to have
absent left femoral pulse. A chest film (Figure 1) was
ained.
Vhat is the radiographic finding?
Vhat additional study(ies) should be done?

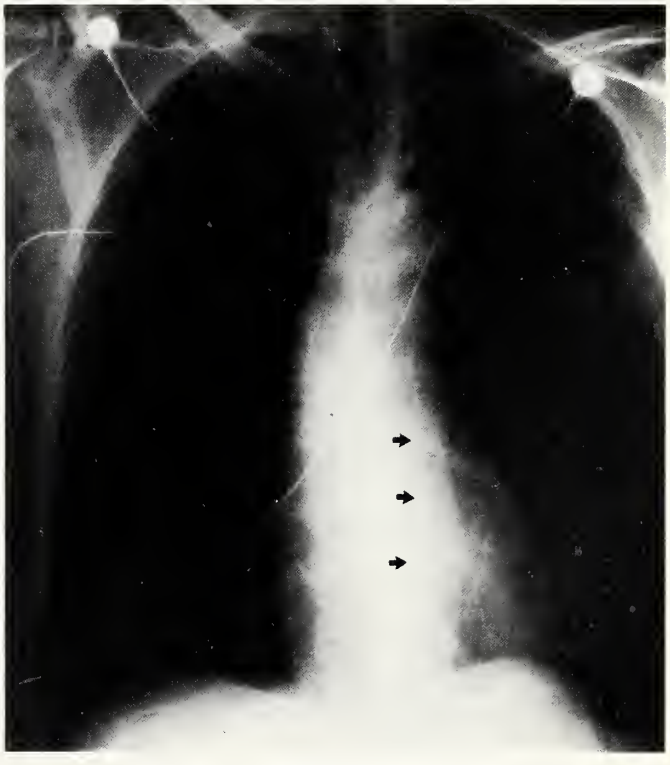


Figure 1
PA chest film. Note white line (arrows).

n: The Department of Diagnostic Radiology, Scottsdale Memorial
pital, 7400 East Osborn Road, Scottsdale, Arizona 85251.

Answer: Aortic dissection

The plain chest film in Figure 1 shows a vertical, linear calcific density which is the medially displaced aortic intima (arrows). When the calcified intima is displaced 6 mm. or more from the lateral aortic wall, dissection should be strongly suspected. "Lumpiness" of the aortic shadow with an indistinct border, especially with a recent normal chest x-ray, is another highly indicative sign. Secondary findings of dissection include cardiomegaly (resulting from incompetence of the aortic valve, myocardial infarction or pericardial tamponade), mediastinal widening and hemothorax.

DeBakey[1] described three classes of aortic dissection. Type 1 involves both the ascending and descending aorta. Type 2 is limited to the ascending aorta, and Type 3 involves only the descending aorta distal to the left subclavian artery. In our patient, the aortogram (Figure 2) shows a Type 1 dissection. The intimal tear is located near the innominate artery origin. Retrograde dissection to the valve is demonstrated, with inferior displacement of the proximal right coronary artery. The dissection extends around the arch and involves the origins of the brachiocephalic vessels. A catheter placed via the femoral artery can be seen in the true lumen, medial to the intimal calcification. The false lumen is opacified in the descending aorta.

Clinically, severe, tearing pain in the chest and back is the classical presentation of aortic dissection. Loss of pulses and organ dysfunction may occur, resulting in limb ischemia, syncope, neurologic deficits, myocardial infarction and renal failure. Increased speed of diagnosis and prompt surgical intervention have decreased the mortality rate from over 80% to approximately 20% in patients with types 1 and 2 dissection. Atherosclerosis and cystic medial necrosis (with or without Marfan's syndrome) are the most common predisposing factors. Dissection may also occur in patients with Ehlers-Danlos syndrome.

Aortography is the study of choice in confirming dissection. It best establishes the extent of the dissection, determines the degree of vascular compromise and locates the site of intimal tear. Dynamic computed tomography (CT) and magnetic resonance imaging (MRI) can also be used to document the presence of dissection, but these are best used to follow dissections treated medically.



Figure 2
Aortogram. True and false channels can be seen.

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re prescribing, see complete prescribing information in SK&F CO. ture or *PDR*. The following is a brief summary.

ARNING

is drug is not indicated for initial therapy of edema or hypertension. lema or hypertension requires therapy titrated to the individual. If this mbination represents the dosage so determined, its use may be ore convenient in patient management. Treatment of hypertension d edema is not static, but must be reevaluated as conditions in ch patient warrant.

raindications: Concomitant use with other potassium-sparing agents as spironolactone or amiloride. Further use in anuria, progressive or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum sium. Hypersensitivity to either component or other sulfonamide-ed drugs.

ings: Do not use potassium supplements, dietary or otherwise, unless kalemia develops or dietary intake of potassium is markedly impaired. pplementary potassium is needed, potassium tablets should not be Hyperkalemia can occur, and has been associated with cardiac irregu-s. It is more likely in the severely ill, with urine volume less than ter/day, the elderly and diabetics with suspected or confirmed renal ficiency. Periodically, serum K^+ levels should be determined. If hyper-ia develops, substitute a thiazide alone, restrict K^+ intake. **Asso-d widened QRS complex or arrhythmia requires prompt additional py.** Thiazides cross the placental barrier and appear in cord blood. n pregnancy requires weighing anticipated benefits against possible rds, including fetal or neonatal jaundice, thrombocytopenia, other se reactions seen in adults. Thiazides appear and triamterene may ar in breast milk. If their use is essential, the patient should stop ng. Adequate information on use in children is not available. Sensitivity ions may occur in patients with or without a history of allergy or chial asthma. Possible exacerbation or activation of systemic lupus ematosus has been reported with thiazide diuretics.

autions: The bioavailability of the hydrochlorothiazide component of ide' is about 50% of the bioavailability of the single entity. Theoreti-a patient transferred from the single entities of Dyrenium (triamterene, F CO.) and hydrochlorothiazide may show an increase in blood pressure uid retention. Similarly, it is also possible that the lesser hydro-othiazide bioavailability could lead to increased serum potassium levels. ever, extensive clinical experience with 'Dyazide' suggests that these itions have not been commonly observed in clinical practice. Do dic serum electrolyte determinations (particularly important in patients ting excessively or receiving parenteral fluids, and during concurrent with amphotericin B or corticosteroids or corticotropin [ACTH]). dic BUN and serum creatinine determinations should be made, cially in the elderly, diabetics or those with suspected or confirmed insufficiency. Cumulative effects of the drug may develop in patients impaired renal function. Thiazides should be used with caution in nts with impaired hepatic function. They can precipitate coma in nts with severe liver disease. Observe regularly for possible blood rasias, liver damage, other idiosyncratic reactions. Blood dyscrasias been reported in patients receiving triamterene, and leukopenia, nbocytopenia, agranulocytosis, and aplastic and hemolytic anemia been reported with thiazides. Thiazides may cause manifestation of t diabetes mellitus. The effects of oral anticoagulants may be eased when used concurrently with hydrochlorothiazide; dosage adjust-s may be necessary. Clinically insignificant reductions in arterial nsiveness to norepinephrine have been reported. Thiazides have also shown to increase the paralyzing effect of nondepolarizing muscle ants such as tubocurarine. Triamterene is a weak folic acid antagonist. eriodic blood studies in cirrhotics with splenomegaly. Antihypertensive ts may be enhanced in post-sympathectomy patients. Use cautiously rgical patients. Triamterene has been found in renal stones in asso-on with the other usual calculus components. Therefore, 'Dyazide' ld be used with caution in patients with histories of stone formation. w occurrences of acute renal failure have been reported in patients on ide' when treated with indomethacin. Therefore, caution is advised in nistering nonsteroidal anti-inflammatory agents with 'Dyazide'. The wing may occur: transient elevated BUN or creatinine or both, hyper-emia and glycosuria (diabetic insulin requirements may be altered), ruricemia and gout, digitalis intoxication (in hypokalemia), decreasing i reserve with possible metabolic acidosis. 'Dyazide' interferes with escent measurement of quinidine. Hypokalemia is uncommon with ide', but should it develop, corrective measures should be taken such otassium supplementation or increased dietary intake of potassium-foods. Corrective measures should be instituted cautiously and serum ssium levels determined. Discontinue corrective measures and ide' should laboratory values reveal elevated serum potassium. ride deficit may occur as well as dilutional hyponatremia. Concurrent with chlorpropamide may increase the risk of severe hyponatremia. m PBI levels may decrease without signs of thyroid disturbance. Cal-excretion is decreased by thiazides. 'Dyazide' should be withdrawn re conducting tests for parathyroid function.

zides may add to or potentiate the action of other antihypertensive s.

etics reduce renal clearance of lithium and increase the risk of lithium city.

erse Reactions: Muscle cramps, weakness, dizziness, headache, dry th; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermat-ical conditions; nausea and vomiting, diarrhea, constipation, other rointestinal disturbances; postural hypotension (may be aggravated by hol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, us, pancreatitis, xanthopsia and respiratory distress including pneu-itis and pulmonary edema, transient blurred vision, sialadenitis, and go have occurred with thiazides alone. Triamterene has been found in l stones in association with other usual calculus components. Rare dents of acute interstitial nephritis have been reported. Impotence has n reported in a few patients on 'Dyazide', although a causal relationship not been established.

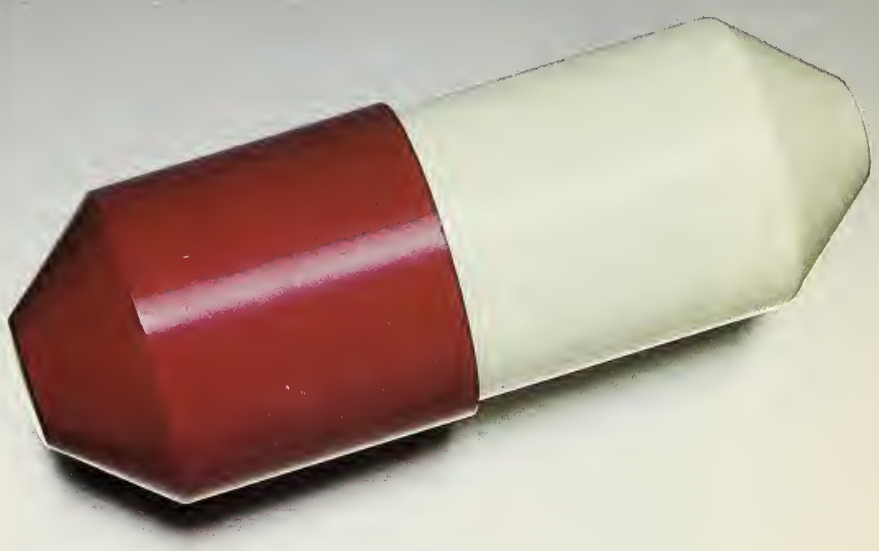
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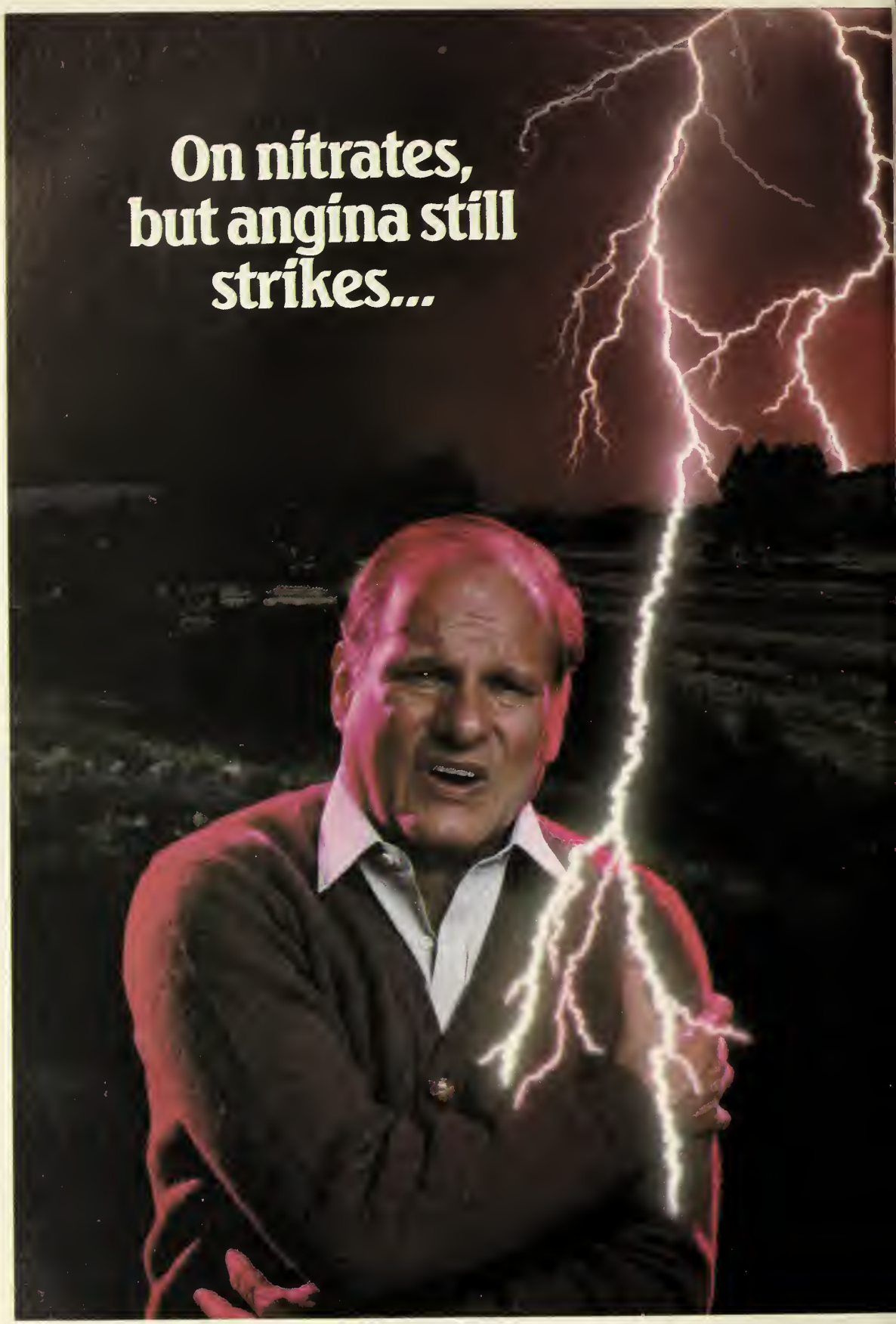


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Contraindications: Severe left ventricular dysfunction (see *Warnings),* hypotension (systolic pressure < 90 mm Hg) or cardiogenic shock, sick sinus syndrome (except in patients with a functioning artificial ventricular pacemaker), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction < 30% or moderate to severe symptoms of cardiac failure) and in patients with any degree of ventricular dysfunction if they are receiving a beta blocker (See *Precautions.)* Patients with milder ventricular dysfunction should, if possible, be controlled with optimum doses of digitalis and/or diuretics before ISOPTIN is used. (Note interactions with digoxin under *Precautions.*) ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild and controlled by decrease in ISOPTIN dose). Elevations of transaminases with and without concomitant elevations in alkaline phosphatase and bilirubin have been reported. Such elevations may disappear even with continued treatment, however, four cases of hepatocellular injury by verapamil have been proven by rechallenge. Periodic monitoring of liver function is prudent during verapamil therapy. Patients with atrial flutter or fibrillation and an accessory AV pathway (e.g. W-P-W or L-G-L syndromes) may develop increased antegrade conduction across the aberrant pathway bypassing the AV node, producing a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion, which has been used safely and effectively after ISOPTIN. Because of verapamil's effect on AV conduction and the SA node, 1° AV block and transient bradycardia may occur. High grade block, however, has been infrequently observed. Marked 1° or progressive 2° or 3° AV block requires a dosage reduction or, rarely, discontinuation and institution of appropriate therapy depending upon the clinical situation. Patients with hypertrophic cardiomyopathy (IHSS) received verapamil in doses up to 720 mg/day. It must be appreciated that this group of patients had a serious disease with a high mortality rate and that most were refractory or intolerant to propranolol. A variety of serious adverse effects were seen in this group of patients including sinus bradycardia, 2° AV block, sinus arrest, pulmonary edema and/or severe hypotension. Most adverse effects responded well to dose reduction and only rarely was verapamil discontinued. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of excessive pharmacologic effects. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, close surveillance of vital signs and clinical status should be carried out. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patients should be carefully monitored to avoid over- or under-digitalization. ISOPTIN may have an additive effect on lowering blood pressure in patients receiving oral antihypertensive agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Clinical experience with the concomitant use of ISOPTIN and short- and long-acting nitrates suggest beneficial interaction without undesirable drug interactions. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block 3rd degree (0.8%), bradycardia. HR < 50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%), elevations of liver enzymes have been reported. (See *Warnings.*) The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: ecchymosis, bruising, gynecomastia, psychotic symptoms, confusion, paresthesia, insomnia, somnolence, equilibrium disorder, blurred vision, syncope, muscle cramp, shakiness, claudication, hair loss, macules, spotty menstruation. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in round, scored, film-coated tablets containing either 80 mg or 120 mg of verapamil hydrochloride and embossed with "ISOPTIN 80" or "ISOPTIN 120" on one side and with "KNOLL" on the reverse side. Revised August, 1984 2385

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Special Articles

An Easterner Looks at Arizona Health Care

Eli Ginzberg, Director, Conservation of Human Resources, Columbia University

As did the legislature of its neighbor, California, the Arizona Legislature in mid-March opted for deregulation in health care by setting a proximate date (end of the year) for the termination of public control over hospital pricing and new construction. The defeat in the November 1984 election of all health care initiatives made it difficult for the Legislature to develop a consensus for new policy with the consequences that the leadership took refuge in the dominant conservative ideology of free enterprise and the competitive market. The leadership was willing at least to give the market an opportunity to show what it could do. The policymakers knew that the market might not be completely successful but, on the other side of the ledger, they knew the high costs of regulation.

During the course of my three days of meetings with the Catholic Physicians Guild, the Arizona Medical Association, and the leaders of the Legislature, I emphasized my limited knowledge of the Arizona medical scene. I told my hosts that I could only draw upon my knowledge of developments on the national scene, specifically trends in federal policy, and the evolution of health care policy at state levels on the eastern seaboard as background for assessing the likely course of events in Arizona. I stressed several times that, despite the Reagan Administration's dislike for regulation and strong belief in the virtues of the market, after four and a half years it had failed to present a comprehensive competition bill for the health care sector.

In mid-March 1985, the odds were that the Reagan Administration would propose freezing Medicare rates for both hospitals and physicians for the next fiscal year, hardly an indication of confidence in the ability of the market to control health care prices. Although specific policies that might not work at the federal level could succeed within the confines of a single state, a cautious analyst must weigh the fact that to date a national competitive strategy for health care has not been developed.

It is not easy to understand why Arizona, alone among the states, refused for so long to participate in the Medicaid program. To an Easterner the explanation seems to reflect the unwillingness of a fiscally and socially conservative legislature to enter a federal-state program which would force the State of Arizona to assume new and heavy fiscal obligations for long-term care.

But political conservatism, fiscal prudence, and a strong belief in individualism were not sufficient to enable Arizona to maintain indefinitely its maverick position. In 1981 it joined Medicaid through the back door by obtaining a waiver from DHHS to start AHCCCS without the state's being required to finance long-term care. The feds saved $100 million or so and the state did not have to assume new liabilities that it wanted to avoid.

The design and implementation of AHCCCS provided early evidence of the pulling and tugging among dominant elements in the political and health policy arenas. One would not expect a state wedded to the theory (if not to the practice) of free enterprise to choose a prepaid system of care over fee-for-service medicine for the medically indigent. But the leadership was afraid that fee-for-service care would result in excessive outlays. Moreover, they were able to justify their deviation by choosing a bidding system whereby the management and provision of health care services for the designated population would go to the lowest bidder, thus affirming their reliance on the market.

The local residents believe that the multiple problems which attended the launching and operating of AHCCCS reflected a compounding of crisis: initiating the system too quickly; underestimating the administrative difficulties of controlling enrollments; false expectations of the willingness of privately insured employers and employees to join the system; lack of sophistication in assessing the capabilities of the management and operating plans; the dislocations that the new state-wide approach would create for the health delivery systems that Pima and Maricopa Counties had had in place to care for the indigent; the lack of enthusiastic support of many hospitals and most practitioners, and the failure to put effective auditing and control mechanisms in place.

I noted in my remarks that many of these difficulties would have been foreseen by the Arizona authorities if they had studied the collapse of the MediCal prepaid health plan system in Southern California during the administration of then Governor Reagan in the early 1970s.

During the course of my brief visit I inquired about the present state of the program and received contradictory answers. All agreed that some of its most serious administrative and fiscal problems were under better control. They felt that the new administrator, Don Shaller, is competent. On the other hand, the press continued to point to unresolved problems. The Legislature had to make two sizable appropriations to cover accumulated deficits. The major physician-owned IPA provider was in the bankruptcy court. Suits and counter-suits among the state, the initial management group, several providers, and most recently a group of Arizona hospitals were still unresolved and it might be years before they go to trial. The Administration has just let contracts to a new group of providers. Clearly the program is still beset by many problems and will face a major test in 1986 when it comes

up for legislative review; at that time it may be terminated, altered, or reauthorized.

The same forces that led Arizona belatedly to join Medicaid, primarily the fiscal plight of the less affluent communities in caring for their medically indigent, make it unlikely that the legislature will seriously consider terminating AHCCCS and once again place the financial burden on the counties. The odds appear to me to favor a more tightly managed state system which will attempt to keep cost acceleration under control.

The more problematic issues in the evaluation of health care policy in Arizona relate to the consequences of the recent action of the legislature of deregulating the system in an environment characterized by strong market forces which are leading to the proliferation of new financing and delivery plans.

Hospital administrators are worried about their occupancy rates. The growing supply of physicians, which will soon be increased by the establishment of a Mayo satellite in Scottsdale, has raised the level of anxiety among many practitioners and specialists; HMOs are aggressively seeking to increase enrollments; new PPOs are looking for niches; large employers are demanding and securing discounts based on volume, and medium sized employers are being offered a wide range of alternative plans for their employees, of which many are offering more for less.

In his presentation to the Arizona Medical Association on March 16th, Burton Barr, the Majority Leader of the House of Representatives, challenged the audience of physicians to use the coming years of respite from state regulation to bring health care costs under control. He warned them that if they fail, the public would insist several years hence that the legislature intervene and take whatever actions are required to accomplish effective cost control.

During the course of his frank, incisive, and wide-ranging remarks, Barr put forward the following axioms about the evolution of health care in the United States and in Arizona. Health care has become established as a right which means that politicians must assure that all persons have access to quality care. Americans never settle for cheap medicine; they insist on quality care. The prolongation of useful life remains an overriding goal to which government must respond. Annual national health care expenditures, now at $400 billion, will rise steadily and before long they will far outdistance expenditures for defense. Physicians by training and inclination resist societal changes that impact the practice of medicine but henceforth they will have to recognize that their best opportunity to influence the shape of the future system is to work collaboratively with the legislature.

I was in substantial agreement with all of Barr's axioms even though I might be inclined to formulate some of them more conservatively, some more radically. But in my presentation which followed Barr's, I indicated that I do not share his optimism that deregulation and a more cooperative attitude on the part of Arizona physicians will moderate health care costs. I ventured the guess t the legislature will have to seek an alternative to competitive market, probably within two years.

I will present here my reasons for this assessme some of which I noted in my presentation and some which I now add.

- The competitive market model cannot be used guide health care policy because government and in rance account for about 70 percent of all payme which precludes effective bargaining between multi buyers and multiple sellers.
- The competitive model is further inappropri because consumers are unable to judge the worth health care services and must rely on physicians to ac their agents.
- Since protection against the uncertainty of la health care outlays can be obtained by individuals o through insurance, protecting the entire (or most of t community at an affordable cost is possible only throu the sharing of risks. The more the risk pool is experie rated, the higher the costs of coverage to the high population.
- Government and philanthropy have been a continue to be the major sources of funding for the b resource inputs—physicians, medical progress (R a D), and hospitals.
- Hospitals, especially in less populated areas, h many of the characteristics of public utilities; they p vide an essential service to the entire community. If Barr suggested, health care has become a right for individuals then the state has an obligation to comp sate for any serious shortfall in the market to prov adequate facilities and services.
- Since physicians are the critical agents in provid health care services and controlling its quality, they m be asked by the public authorities to establish and ma tain appropriate standards of care.
- A price-driven health care system is a contrac tion in terms. Low cost health care, if it results in p quality as it often does, is a public loss, not a public go

So much for the theory of competitive markets a why it is inapplicable to the health care sector, sur inapplicable under Barr's axioms noted above. Let now point out some of the emergent problems that I on the Arizona horizon now that deregulation is ab to take over.

- The risk pool is being shattered. As HMOs, PP employer discounts and similar new financing-deliv systems are growing apace, more and more "high r high cost" individuals and groups will be ejected fr coverage or will be able to obtain insurance only excessively high costs. Such a development is a dir contradiction to Barr's axiom that quality health care right.
- The short and middle term will probably witn the addition of many more hospital beds and ne expensive (but revenue-producing) services. Some these new beds may help to meet specific local nee especially in areas which are experiencing rapid grow

t many others will simply add to the present excessive spital capacity. The following are likely consequen-s: increasing admissions; questionable diagnostic and erapeutic interventions; excessive price discrimina-n between strong and weak buyers; financial instabil- for many institutions and, in the long term, mergers closures which may well leave vulnerable groups thout adequate hospital support. In addition, there is ely to be increased "dumping" of uninsured or poorly ured patients into public hospitals which will find it ficult to provide adequate care for them.

- The proliferation of new financing-delivery sys-ms is already forcing many enrollees to leave their gular physicians and to choose providers from a nited list. If a critical element in the quality of care is e continuity of relationship between patient and phy-ian, the new cost driven modalities are likely to have adverse effect on the quality of care.
- There is scattered evidence available about the tent to which physicians in private practice and hospi-s have cared for a large number of patients with diffi-lt diseases because of their ability to charge other tients more than their direct costs. The current move let the market establish prices will surely place more d more of these patients with complicated diseases at k.

I could continue to list prospective difficulties and ngers that loom ahead for Arizona but let me con-ude with a warning to Mr. Barr and the legislature. eregulation represents a major cost shift from the pri-te to the public sector. I doubt whether the legislature lly appreciates that this is the process they have itiated. I submit that before two to three years the sruption of the health care system will force the legis-ture to seek a new policy. To expect physicians to ntrol costs in a period of market turmoil is to ascribe to em powers they do not have and should not have in a orld in which quality health care has become a public sponsibility.

ome Thoughts on Books, Journals, lectronic Publications, Libraries nd Librarians

ertha R. Almagro

The arrival of electronic publishing has been used by resent-day Nostradamuses to foretell the end of the rinted word. For the last 20 years, approximately the me when computers were first applied to the printing f conventional publications, the end of books, journals, braries, and librarians has been prognosticated by nese prophets of doom.

om: Assistant Librarian for Processing Services, University of Ari-na Health Sciences Library, Tucson, Arizona 85724.

These early "obituaries" remind me of Mark Twain's witty reply about the news of his supposed demise, published by the Associated Press in June of 1897. He sent them a cable that read "The Reports of My Death are Greatly Exaggerated."

The diversity of publications available online (particularly full text of books, journals, encyclopedias, etc.) and their accessibility through remotely located terminals at home, and in the office, have opened an exciting new panorama. The capability to search the databases of a large number of libraries by simply stroking a few keys, provides immediate access to the riches collected in libraries throughout the nation. This fantastically encompassing collection can be compared to *Andre Malraux's* concept of the "Musee Imaginaire"[1] or "Museum Without Walls," which states that through photography and the modern printing techniques, 20th century man is heir to a ubiquitous imaginary museum containing the art of all times. Following in the footsteps of this statement, we can say that modern day technology has created an equally extraordinary "Bibliotheque Imaginaire" or "Library Without Walls."

To reinforce this vision we can presently cite the availability online of full-text versions of a substantial number of books and journals. Medical textbooks from Saunders, Churchill, Livingstone, Lippincott, and others, are available through the BRS/Colleague System. Important journals such as *Anatomy and Human Biology; Biochemistry: Developmental Biology and Medicine; Drug Metabolism and Toxicology; Cell and Membrane Biology; Metabolism and Nutrition; Nervous System*, and many others are already loaded, and according to the July/August 1984 issue of BRS Bulletin, current issues of *Lancet* are now available online in full text as part of the Comprehensive Care Medical Library (CCML) database. This fall CCML plans to make available the full text of the *New England Journal of Medicine*, from 1982 forward. Other titles to follow are *Annals of Internal Medicine, British Medical Journal,* and *Medical Letters on Drug and Therapeutics*. Journals of the *American Chemical Society* are also available online, offering full text of approximately 30,000 articles, with an update rate of 400 articles every two weeks.

There exists though, a definite built-in danger in this superabundance of available information. For one, excessive publication hinders effective communication among scientists, and places an unfair burden on those who wish to be informed. There are currently over 8,000 journals devoted to biology and medicine, and altogether 62,000 under the more encompassing term "scientific journals." Although one may reason that part of this proliferation is due to the rise in the number of scientists, it is evident that the supply of new information has outpaced the demand. Sir Peter Medawar, the Nobel-prize winning immunologist, in his book *Advice to a Young Scientist*,[2] estimates the number of scientists in the world to be between 750,000 and 1,000,000. The clutter has also hindered the checking mechanisms of science, and lessened the deterrent for would-be

deceivers and plagiarists. Repetitive publications that appear virtually unaltered elsewhere abound, and are another "side effect" caused by journal proliferation. Not only is this unethical and wasteful of time and money, but it also means that some worthwhile article did not get published.

As more and more journals are offered through online databases, the retrieval of literature will be made more difficult as databases are literally clogged by repetitive articles. Lack of space will also result in the exclusion of classic papers written long ago, depriving the younger generation from enjoying the visions and the styles of the scientists who preceded them. The French historian Fernand Braudel has said of history that "it devours the present," but in science, to be sure, it is the other way around; the present devours the past!

When it comes to books, the situation is just as desperate. K. S. Warren in his book *Coping with the Biomedical Literature: A Primer for the Scientist and the Clinician*,[3] tells us that the largest medical library in the world, the National Library of Medicine, receives 14,000 newly published learned treatises on medicine each year, the largest percentage coming from American presses. For example, according to the latest statistics received from one of our major suppliers, during 1983, 49 of the foremost publishing houses specializing in medical books produced 3,538 volumes, with a total cost of $120,683.69. The average price was quoted at $44.01.

Volume makes it very difficult to separate the wheat from the chaff; the similarity of titles, content, and style are dangerously close to being labeled fradulent. They take clonish look in that they repeat what has already been said countless times, lack freshness of approach, and seem to emanate out of the need to publish one more work to be counted toward the achievement of tenure.

To make matters worse, the new fashionable practice of the multi-authored publications has complicated further the selection process. One inevitable weakness of this type of publication is the difference in style and the quality of the contributors. Sins of omission, duplication, and lack of consistency run rampant. Identification of intended readership becomes very difficult, and in the end, we must pay exorbitantly high prices for volumes that will satisfy a narrow audience. The "multi-authored book syndrome" as I have labeled it, can be compared to a certain extent to the startling inflation in the number of authors per paper published in medical journals. The percentage of articles written by a single author fell from 98.5 to 4.0. This phenomenon has been quantitated by counting the number of authors on original articles printed in the *New England Journal of Medicine*. In his much quoted book *Little Science, Big Science*,"[4] Derek J. De Solla Price commented on the striking increase in the number of authors per article in journals and elsewhere.

Since "nothing succeeds like excess," the *New York State Journal of Medicine* recently published a one and a half page article (of which half a page consisted of illustrations) penned by no less than 19 authors. The title the article escapes me, but it could easily be called "H many authors can dance upon the head of an articl after the medieval theological debating point of "H many angels can dance upon the point of a needle

Philosophers have frequently called attention to dangers of overpublication as interfering and curtail the availability of precious time required to observe a experiment, and lastly, with living itself. Aristo pointed out that moderation was the key to worthwh human activity, and Sir Peter Medawar, in his b *Advice to a Young Scientist*[2] had this to say: "Too mu book learning may crab and confine the imaginati and endless poring over the research of others is son times psychologically a research substitute, much reading romantic fiction may be a substitute for real romance."

The chaotic state caused by overpublication was b described by Jose Ortega y Gassett, the well-kno Spanish philosopher. In his address delivered at International Congress of Bibliographers and Libr ians,[5] held in Paris, 1934, he had this to say: "There already too many books. Even when we drastica reduce the number of subjects to which man must dir his attention, the quantity of books that he must abs is so enormous that it exceeds the limits of his time a his capacity of assimilation ... this leads him to read t fast, and to read badly ... if each generation continue accumulate printed paper in the same proportion as last few generations, the problem posed by the exces books will become truly terrifying. The culture wh has liberated man from the primitive forest now thru him anew into the midst of a forest of books no l inextricable and stifling." Since the time this statem was made, 50 years ago, the number of books has pro bly increased eightfold. To this must be added the ast nomical number of journals being published (ab 75,000 to 100,000), which together with the new techn logical capabilities for electronic publishing, creat flood of materials that will make the mission of librarian even more difficult.

The new electronic medium is ideally suited for a gr deal of information whose importance rests mostly in timeliness. Reports and other documents emanati from government agencies or private industries, wh overall content has perishable value, and whose m purpose is to disseminate information quickly, are pri targets for the new medium. The papers presented symposia, meetings, colloquia, etc., are also ideal targ for the new medium due to the rapid changes that ta place in a wide number of the fields covered. Upda can be quickly performed online, or the data can deleted and replaced by more current informati Come to think of it, the electronic medium might av future embarrassment to some authors, since contro sial or compromising statements can be eliminated, opposed to the permanency of printed copies scatter throughout libraries or privately owned.

)ne frightening aspect of the new technology deals h possible obliteration of the data embedded in its ctronic womb. Despite burning, pillage, and mutila-, books have survived the ravages of time. People e been willing to risk their lives trying to preserve as and principles transferred to paper and printed in ok form. How can we save these thoughts when all we e are letters transmitted through telephone lines, pearing on a cathode screen? I am aware that precau-ns have been taken to avoid such a catastrophe plicate files kept in safety vaults,,security points built h the system, etc.), but the lack of a physical presence ok or journal) is conducive to a sense of insecurity. he beauty of the printed word will remain undis-ed. Even though videodisc technology will become a ior storage and retrieval device with guaranteed hival quality output, the feeling of elation at running ır fingers over a beautifully bound book, or feasting ır eyes on some exquisitely illustrated volume has no ual. Not only are books beautiful to hold and look at, they offer you the opportunity to enjoy them in the et solitude of your favorite corner in the library, or in intimacy of your home, while sipping a fine glass of e, or a good cup of coffee. This intimate experience never be surpassed by the glossy efficiency of a minal with its procession of little green letters, loding like hundreds of mini novas on the screen.

Not all publishers are interested in electronic capabili-, but those who are already committed will play an rumental role when exercising editorial judgment in selection and arrangement of material from the vast antities of information available from databanks and eodiscs. It is entirely possible that two versions of the ne journal will be available, one online containing re articles, and one printed containing selected arti-s. This of course guarantees sales for both formats, d will apply greater pressure on the already decimated dgets of academic libraries, as demands for both ver-ns will probably occur. A problem of a different ure, but of extremely serious implications, is posed the creation of a caste system among those libraries t can afford the new technology and those that can-. This will be particularly acute if publishers choose to ke a large number of their journals *available only ine*.

When F. Wilfried Lancaster in his book *Libraries and rarians in an Age of Electronics*,[6] said that "for all ctical purposes, electronic publications will eventu-supplant print on paper," he evidently had not yet d the following information published in a recent ıe of *U.S. News and World Report* ... "despite Ameri-ns' ever increasing courtship with the electronic dia, book sales have increased almost ten percent this ır, with predicted sales reaching the $9 billion mark." Other prophets have talked about the "decline" of profession due to the scenario created by the arrival the new technology. Since the word was first orded on a clay tablet several millennia ago, librar-s have been able to move from one scenario to the next effortlessly. I can cite the example, dating from 2,000 B.C., provided by Amilanu, the first known librarian in charge of the oldest library catalog engraved on the walls of the library in Edfu, Upper Egypt. Amilanu was ordered to embrace the new technology; that is, to reproduce the entire catalog on papyri! The librarians or "Armarius" (as they were also called) of Benedictine monasteries had to adjust to the advent of the printed form, and the first manual typewriter was joyously received by those librarians who had meticulously endeavored to write in longhand the cards of many catalogs.

Despite the numerous apocalyptic forecasts, the printed word will reign supreme, the publishing business will remain the focus of academic and social activities they have always been, and librarians will continue the uninterrupted dialogue they have always maintained with users. After all, the essence of our profession is based on information, be it obtained from printed sources, computer terminals, television sets, overhead projectors, microform readers, videodiscs, or any other new medium yet to come.

Experts estimate that by 1988, nearly 60% of the American work force will be linked to electronic stations, and that actual text of articles will be compressed, digitally stored, and made available over a particular network to be read online, or if desired, to be printed out for a later time. It is safe to assume that some predictions will come true (perhaps later than anticipated), while others will never materialize. Meanwhile, I urge readers to continue enjoying the wonderful company and warm intimacy that only books can provide.

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Briefly Noted

Edward J. Donahue, M.D., Phoenix, was certified by the American Board of Surgery in March of this year.

W. Lee Fanning, M.D., Scottsdale, and **Mark H. Gotfried, M.D.**, Phoenix, have been elected to Fellowship in the American College of Physicians (ACP) and were formally inducted at the College's annual scientific meeting in Washington, D.C., in March.

John P. Holbrook, M.D., Tucson, has been named chairman of the Board of Trustees for El Dorado Hospital. Dr. Holbrook, an internist, has served on the hospital board since 1981. Other ArMA members serving on the 14-member El Dorado board are: **E. Luis Aguilar, M.D.; Donald D. Ewing, M.D.; Charles P. Fina, M.D.; Gerald Giordano, M.D.; Lawrence R. Housman, M.D.; Robert B. Leff, M.D.;** and **Harold C. Tretbar, M.D.**

Thomas M. Leenhouts, M.D., Sedona, was the guest speaker at a recent breakfast meeting of the Bell Rock Kiwanis Club.

The Arizona Medical Association welcomes the following new members:

Active Members

Coconino

Michael J. Sims, M.D.
Internal Medicine
823 North Beaver, Flagstaff
University of Tennessee - 1972

Maricopa

Stephen E. West, M.D.
Pediatrics
5310 West Thunderbird, No. 110
Glendale
University of Florida
College of Medicine - 1974

Resident Members

Maricopa

Richard D. Friedman, M.D.
Internal Medicine
Maricopa County Medical Center
Tulane University - 1984

Robert Allen Kearl, M.D.
Internal Medicine/Pulmonary Disease
Maricopa County Medical Center
University of Wisconsin
Medical School - 1982

Affiliate Members

Maricopa

Arthur W. Devine, M.D.
General Surgery
12619 Eveningside Drive
Sun City West
University of Iowa
College of Medicine - 1947

Thomas Owen Hail, P.A.
University of Utah P.A. - 1977

Richard S. Seaboch, P.A.
Duke University P.A. - 1979

Frank G. Zingale, M.D.
Urology
19830 Star Ridge, Sun City
Washington University - 1933



The Pima County Delegation of ArMA's 94th Annual Meeting.



Maricopa County Delegates at the first meeting of the ArM Auxiliary House of Delegates carefully consider the business the day.



AMA President, Joseph F. Boyle, M.D., addresses the ArMA House of Delegates.



ArMA's House of Delegates meets county medical socie auxiliary presidents. (L to R) Dee Wright, Coconino; Eilee Yeung, Maricopa; Lori Nelson, Mohave; Diana Henderso Pima.



sting ArMA's successful March Current Perspectives pro-
m, Quality Care and Cost Containment, are Representa-
s Bart Baker, Health Economist Eli Ginzberg, Ph.D., Drs.
ward Sattenspiel and Earl J. Baker, and Representative Bur-
S. Barr.



is inaugural address, ArMA President, Gary L. Henderson,
D., urges Arizona physicians to look to the future with
husiasm and confidence.



legates from Mohave County at the first meeting of the
MA Auxiliary House of Delegates.



Getting ready for their presentations at the 11th Annual Sports Medicine Symposium were Robert O. Wilson, M.D., Youngtown; NAU's head athletic trainer, Mike Nesbitt; and Norman Fee, M.D., Phoenix (l to r).

Photo Credit:
Eloise Clymer



On behalf of the Arizona Medical Association, Earl J. Baker, M.D., ArMA's immediate past-president, (left) accepts congratulations from John Coury, M.D., Chairman, AMA Board of Trustees, for increasing its AMA membership for 1984.



A capacity crowd turned out for ArMA's recent "Quality Care and Cost Containment" seminar. Guest speakers, Louis J. Kettel, M.D., Dean of U. of A. College of Medicine; Health Care Economist, Eli Ginzberg, Ph.D.; and the Honorable Burton S. Barr, Majority Leader, Arizona House of Representatives.



The success of ArMA's recent three-day Sports Medicine Sy posium gave committee members and faculty plenty to sm about. From left to right, keynote speaker Rainer Marte Ph.D.; Symposium Chairman Thomas P. Foerster, M.D.; Spo Medicine Section Chairman Russell P. Chick, M.D.; and C Chairman, Scott Geddis.

Medical History

Extracts From the Publications of th Arizona Medical Association (Continued)

John W. Kennedy, M.D.

This is the twelfth and probably the last in a series, relating some of the highlights as noted in journals about the Arizona Medical Association and its members.

From the very beginning of the society in 1898 there has been a paucity of funds for these publications and the present journal is no exception.

In 1937 Dr. R. F. Palmer, Medical Advisor, Industrial Commission of Arizona, speaking before the 48th Annual Session of the Arizona State Medical Association, made these comments: "The litigation of the industrially injured cases, while not being entirely responsible, no doubt has had much to do with the difficulties experienced by the medical profession in convincing the public of its moral and ethical standards." As stated by Judge Lockwood of the Supreme Court of Arizona, "The testimony of expert witnesses, selected and paid for by the litigants, were so notoriously unreliable that it has even passed into a proverb, and the positive, comparative, and superlative degrees of prevaricators are frequently illustrated by *"the liar, the—liar,* and the *expert witness."* (Now fifty years later, both lawyers and doctors freely advertise and some are of the opinion that this has not led to any increase in the confidence of the public as relates to either of these professions.)

Also in 1937 there is a reprint of an article by Dr. Gardner S. Chapin on syphilis; he begins by giving two verses of a poem, which as medical students, we chortled fifty years ago and it goes like this.

"There is more to his terrible plight;
His pupils won't react to light
Although he has tabes
And sabre shin babies
He has also a gun barrel sight.
Although treated in every known way,
The spirochetes grow day by day
He's developed paresis,
Converses with Jesus,
And thinks that he is Queen of the May."

As I recall there were other verses to this doggerel and perhaps some of my "young" colleagues can supply. This was long before the penicillin era and imagine that most of the present practitioners are unaware of the long t vail that faced the patient once the di nosis of syphilis was made. The followi is quoted from Dr. Chapin's method treatment: "I try never to let a patie stop treatment short of 72 bismuth and neosalvarsan injections. Otherwise may regret it in after years and curse for negligence."

In 1938 Dr. Leslie Kober of Phoe made a plea for more care in the tre ment of pneumonia, especially that t cases be typed and the appropriate ser used in those types in which it was avai ble. He noted that a recent editorial in t *J.A.M.A.* noted "that most of the cit with unusual death rates for 1929-1931 located in the Southwestern or Nort western parts of the country." And al that "the Southwest and the Southe have much less equipment and practica no activities in typing." Kober allow that in Phoenix there were four laborat ries and three hospitals available f

umococcis typing by the Neufeld
d method. He made a plea for the
ng of more cases.
ithin three years the sulfas came with
eir glory and this was followed very
tly during World War II by the intro-
ion of penicillin. Then came the great
of antibiotics and now there are so
y I do not know how any practitioner
keep track of all the variations. (As
many interns and residents in the
thirties, the onerous task of typing
upon me and my colleagues.) In the
proceedings of the El Paso City/
nty Hospital in January of 1938, lobar
umonia was discussed, and along with
umococcic typing and blood cultures
e was also a discussion of the use of
umothorax in the treatment of lobar
umonia.
ou may have forgotten, but it was
t this time that Mr. Thurman Arnold
cted the "big guns" of the Depart-
t of Justice at the American Medical
ciation. The article goes further to
"to call a voluntary organization of
kind a 'trust' and a combination in
aint of trade seems a little far
ed; and if this is the best Mr. Arnold
do in this great trust busting cam-
n it might be better for him to return
ew Haven where he enjoyed some
tation as a colorful teacher of law."
ar as I can recall the AMA was not
icted in this instance, but as we all
v from that time forward the federal
rnment has been quite persistent in
nding the medical profession.

s Items 1939

litorials in *Southwest Medicine* con-
ed to rail against "the indictment."
reads, "Now that we members of the
erican Medical Association stand
er criminal indictment for violation of
Federal Antitrust Acts, it might be well
re-assert that if we do not hang
ether, we hang separately." It con-
es, "most physicians feel that if they
stitute a trust, so does the Baptist
rch, the Masonic Lodge, the C.I.O.,
American Bar Association, College
ernity System, Podunk Cat Council,
American Kennel Club and any other
nization prescribing certain require-
nts for membership."

pital costs per day:

vidence Hospital (Waco) — $3.24 to
8
n Sealy Hospital (Galveston) — $3.55
aso City/County Hospital — $1.78
his is a representative cost per day of
/County Hospitals in Texas in 1938.
day for the most part it wouldn't even
you a Coke.)

During this period, Dr. J. D. Hamer of Phoenix was the associate editor for the Arizona State Medical Society and he made a plea for the various Arizona County Societies to send in news. From the amount which we find in this period he was met with a resounding silence.

The 1939 annual meeting of ArMA was held at the Westward Ho Hotel in Phoenix. In the April 1939 issue, Dr. Orval Harry Brown discussed coccidioides infection in Arizona and stated "The last twenty years I have had a number of cases, perhaps a dozen, who seemed to fit into the requirements, set up by Dickson, Smith and others for the diagnosis of a coccidioides infection." He further observed that these people consulted him because of erythemic nodules. (No doubt he was right in his conjecture. Dr. R. W. Phillips of Phoenix was soon to obtain some of the skin test material from Dr. Smith in California and proved indeed that there were cases here in the valley.) However, it was not until the onset of World War II and the establishment of camps far and wide in the desert area from California through Arizona, New Mexico and Texas that the widespread prevalence of the disease was recognized and this was mainly through the efforts of Dr. Smith.

News Items 1941

The Arizona State Society celebrated its Golden Anniversary.

Dr. Robert A. Green, et al., reporting on seriologic tests for syphilis among college students in Tucson, Arizona stated that during the period of 1936-1937 blood specimens were submitted for five thousand university students. Ninety-eight percent gave negative reactions and 20 (0.4%) gave positive reactions.

On February 8, the Pinal County Medical Society was formally organized. This is the first time in the history of the association now in its fiftieth year that Pinal has had its own society, the physicians of the county having affiliated with the medical societies of Gila, Maricopa or Pima counties. Dr. H. B. Lehmberg of Casa Grande was elected president, and W. P. Tucker of Superior, treasurer.

In this and subsequent issues, frequent articles appeared concerning the use of the sulfa drugs. By this time sulfanilamide, sulfapyridine and sulfathiazol were in use and specific directions were published in 1941 for their use in pneumococcal pneumonia. So the laborious typing and culturing of the pneumococcus disappeared. Sic transit Gloria.

News Items 1942

In his presidential address, E. Payne Palmer of Phoenix spoke about "Arizona Medicine in 1900 and today."

In 1900 a board of medical examiners was appointed by Territorial Governor N. O. Murphy. It included one member, a graduate of a homeopathic school and another, an eclectic school. He noted that St. Joseph's Hospital in Phoenix in those days could accommodate twelve patients and then was not always filled. The majority of the cases were medical, for there was no operating room. When an operation had to be performed, the linens were boiled in a clothes boiler and used at the operation while still wet. Two carpenter horses would be placed in the patient's room to support a specially constructed board cover which completed the improvised operating table. The patient was then placed upon this table and the point to be operated upon was thoroughly washed with soap and warm water. Anyone really interested in the 1900 era should consult Dr. Palmer's article.

In the November 1942 issue it is stated "As of October 1942, a total of 105 Arizona physicians were in Army or Navy service. Thirty-six El Paso doctors had gone to war. New Mexico has sent 81 physicians to the Army and Navy. And there follows a list of the names of the men who have been called up by the Armed Forces. Already shortages have begun to occur and it was noted the war has cut off importations of agar — agar, which normally came from Japan."

Dr. C. E. Yount of Prescott reviewed the then present knowledge of penicillin. He gives a very good historical account of the development and research during the war in the review. The reported clinical cases were very encouraging but so far it wasn't available on the civilian market for use.

Notices were carried that the Navy wanted 600 women doctors, the Army was willing to accept married nurses in the Army Nurse Corps and there was a discussion under what conditions that bills of civilian physicians for services to military men would be honored.

This was the last year that *Southwest Medicine* was the official journal of the Arizona Medical Association.

With this we close this series on review of publications of the association.

Arizona Medicine, the current journal, Volume 1, appeared January-February 1944. According to some (1985) its future is in financial jeopardy as indeed were many of the previous publications of the association.

Book Review

Portrait of Progress, a Story of Tucson Medical Center, by Reba Douglass Grubb, published by Raim, Inc., Tucson, 1984. 419 pps.

This is a delightful account of *The Desert Sanatorium*, and its successor, *The Tucson Medical Center*.

It is replete with pictures and vignettes of the principal benefactors, administrators, nurses and physicians who have been associated with the institution.

So far as this observer is aware, it is the most complete historical account of any present day Arizona hospital. JWK



Excellence in Medical Education and Research

Editor:

In his March 1985 editorial on the coming of the Mayo Clinic to Scottsdale, Marshall Block wrote that:

"I further suggested (to a physician from the Mayo Clinic) that they should scale back their research and education efforts (do we really need a study of the last 2,600 left toe abcesses?) and let the funds be doled out by an independent body such as the National Institutes of Health and not be supported by patient revenue. It is hoped that this would reduce patient care costs."

Several points merit comment:

Medical research and education in Arizona could stand to be more active. Arizona has relatively few research programs compared to states of similar size. Arizona has one established medical school. A number of cities have two or more medical schools. Even with other fine programs in medical education here, Arizona is not overstocked with medical education. If the Mayo Clinic can contribute meaningfully to medical research and education in Arizona, this would be of potential benefit to Arizona.

"A study of 2,600 left toe abcesses" is *not* significant research. It may be mildly amusing. Surely such things have been done in the guise of research. However, good medical research is essentially learning about matters of critical importance to medicine.

The National Institutes of Health (NIH) do represent a major source of biomedical research funds. Unfortunately, NIH funds are limited and cannot by any stretch of their funds support all necessary medical research. The NIH is in particularly troubled straits now, because the Office of Management and Budget (OMB) has managed to block the intent of Congress by requiring NIH to encumber funds from the 1985 congressional allotment to cover future commitments in 1986 and 1987. This will effectively reduce NIH funding for research to a low level in this and coming years.

The NIH does not dole out research funds. It funds grants only after a very competitive process including rigorous peer review of grant requests and it is able only to fund a small proportion of the grants requested of it. NIH does not support state medical education programs. In fact, the purpose of NIH is not primarily medical education. Finally, NIH is not the only federal institution that supports health care research and education. But all such federal programs have been seriously truncated by the emphasis on military spending and the relative neglect of biomedical research and education by the government.

It would be of appreciable value if the Mayo Clinic in Scottsdale was to make medical research and education funds available not just to Mayo Clinic programs, but to all eligible programs in Arizona. This could be done by an appropriate application procedure and by effective peer review of applications requesting Mayo research and education funds.

Patients should not be paying for research via their fees for service. On this point, and this point only, is there full agreement.

In summary, the Mayo Clinic could potentially help medical research and education in Arizona. As one who works for a nonprofit Arizona program for medical research, education and care, I hope that the Mayo Clinic will not abuse, but will use its new Arizona nonprofit status for the good of the citizens of Arizona by ecumenically and actively supporting excellence in medical education and research.

Frederick Hecht, M.D.
President and Director
The Genetics and Cancer Centers of Southwest Biomedical Research Institute, Tempe

Editor's Response:

Dr. Hecht's comments concerning "nonprofit" status of the Mayo Clinic its relationship to bringing dollars to A ona for medical research and educat are interesting. His perspective is tha granting a nonprofit status to the M Clinic, money will be made available others to conduct research. I have no ficulty with this perspective. Howeve wonder how much of the $100,000,00 a year now spent by the Mayo system education and research is given to inve gators or programs *outside* of the M system. Perhaps, Dr. Hecht has sc inside information that he would lik share in this regard. As long as pat revenue is not used to support such ac ities, and the education research is d in Arizona, I see no reason why we sho not support such activities by grantir nonprofit status. However, if research—education is done in Roch ter, Minnesota, I see no reason why A ona should support these activities giving a nonprofit status to a profit organization such as the Mayo Clinic the way, where did they come up with money to buy 119 acres in north Sco dale? Or, for that matter, where are t going to come up with the money to b a hotel and hospital in addition to t clinic facilities?

Marshall B. Block, M.D.
Editor

AHCCCS Postcript

Editor:

The AHCCCS program as an exp ment had to be called a failure to present time. This can be said know that the experiment is not yet comple

It did not live within its budget. It not prove that the private sector administrate better than the public tor. It did not contain costs, and it hel disgrace the reputations of many w meaning professionals, and for these r sons, it has failed thus far.

However, the reasons for its failure not necessarily proof that the basic c cepts the program was based on w incorrect. The program may have fa its goals, but the experiment did pr certain other truths that should not ignored.

The concept that a primary-care g keeper physician can direct patients the most cost-effective treatment mod

nay be valid, but it did not receive a test in the AHCCCS experiment. n more than half of all patients ed the system already in the hands ner doctors, the primary-care physi- became an interloper in an already ng doctor-patient relationship. The nts were already in these relation- as the administrator of AHCCCS times took months to connect a nt with a primary-care physician. By ime this connection was made, in cases, it was too late to act as a gate- er in any true sense as the gate was ed months before. At this point, all rimary-care physician could do was o talk patients out of modalities dy begun, or deal with the anger and ation of the patients and the doctors demanded referrals for treatments dy given. This should not be the role rue gatekeeper.

airness to the system, changes in this nistrative process have been insti- very recently, and its effects are yet seen.

e only way to have truly tested the eeper concept would have been to l patients prior to the development illness and to have developed a data beforehand. This was clearly impos- to do as the AHCCCS program has crisis oriented and has to some ee discriminated against healthy nts. With the exception of the AFDC lation, most AHCCCS patients are r brought into the system with an expensive crisis, or have chronic itating diseases that require long- expensive management. The princi- of gatekeeper control health tenance did not get a true test in this lation under this type of admin- on.

nat then did AHCCCS seem to prove? st, it proved that anyone who tries to a profit saving money in health care nediately suspected of impure moti- n. This has been reflected in the from the beginning of the program out a chance for rebuttal from those gned. Taking a risk on one's belief es suffering a loss if you are wrong naking a profit if you are right. Under CCS, the concept of excellent nt care resulting in savings and even- profit was a thought that never saw ght of day.

proved secondly that the political ture is more interested in its own e and its budgets than in proper nt care. The government unfortu- y has been forced to plan and pay for health care of those members of society who have been dealt the cruelest blows of life. These poor unfortunate people are shifted between health plans and doctors as compromises for political economic problems, which are given primary consideration and the patient's medical care given secondary consideration. It proved that the political structure demands a *scapegoat* for the failure of a scientific experiment. Rather than accepting the failure at its scientific reality, it has placed political considerations over true health care in order to force a change in the outcome.

It proved thirdly that indigent care cannot be mixed with the mainstream of private-sector medicine, which was one of the main goals of the AHCCCS program. The administrative hassles of dealing with AHCCCS are far too disruptive and costly in a private medical office as compared to normal fee-for-service, or even private PPO patients. Private-sector patients sense this disruption and find other doctors at great economic loss to those private physicians who attempt to care for the indigent patients, along with their regular patients.

Fourthly, and perhaps most importantly, on a personal level, it proved that even if one is right, in developing an innovative program before its time, the ostracism one receives from one's peers makes life very difficult. The amount of money that one can earn (which is far less than rumor would make it) in pursuit of cost-containment is not worth the cost in prestige, respect and peer acceptance, let alone legal fees, and is a large price to pay to play the game. Even if one wins, it is a losing proposition.

AHCCCS is *not* over. It will be with us in Arizona for at least two more years, if not forever, in some form of government-controlled medicine. Experimental findings can change as more data are collected.

Bruce H. Shelton, M.D.

Editor:

In reply to the article "How Your Practice Can Cope With Change" by L.C. Beck, LL.B., CPBC, G.T. Anders, J.D., CPA, CPBC and D.R. Swèeney, I would like to make the following observations.

A. Physicians get 20 cents for every dollar spent on health care. The high cost of technology, the increased life span of our population, the inflation, and the never ending increase of malpractice cost are the most important factors in the rise of the health care cost in the U.S.A. For this reason, it seems that rationing the physicians' fees will only have a cosmetic value. In order to obtain a meaningful reduction of the health care cost, our society will have to ration and/or abandon good medical care and to accept a deterioration of our medical standards.

B. In reference to the statement "for physicians hardly have a constitutional right to their economic well-being," one might argue that this type of reasoning could lead in the future to some very dangerous situations. If the precedent used today against the physicians will go unchallenged, tomorrow, it might be used against other professional groups like lawyers, CPA's, etc., and even against nonprofessional groups.

C. Concerning today's increased supply of physicians, in the future, we might face an unexpected shortage of M.D.s and D.O.s. The continuous harassment produced by multiple regulations, the malpractice threats, and the aggressive and hostile intrusion of the nonprofessionals in almost every aspect of the practice of medicine, might act as strong incentives for many physicians either to retire prematurely, or to quit and embrace new professions. For the same reasons, young people might decide to forego the field of medicine and look for better ways to make a living.

D. The authors of this paper indicate that the HMOs will take care of 50,000,000 patients by 1993. Who will take care of the remaining 180,000,000 Americans? (This is a conservative figure based on the assumption that our population will not grow in the future).

A recent poll has shown that over 80% to 90% of the Americans are satisfied with the present health care system.

In different countries, with socialist or nonsocialist systems, government controlled medicine has proved inferior to our health care system. We are not perfect; but, to paraphrase Sir Winston Churchill, our system is the best one around.

Our system can and should be improved. Unfortunately most of our reformers seem determined to destroy it!

George Lastnick, M.D.

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Earl J. Baker, M.D.

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Stress and Medical Students

Stress among medical students is frequently discussed — and written about — in medical education circles. Because of concerns about the impaired physician, some have suggested (in the absence of data) that such impairment starts in medical school where students are traumatized by a system of medical education which is very rigorous and inhuman as well as nonhumanistic.

There is no question that there is stress in medical school. Furthermore, a stressless environment is not the goal of medical education. Some amount of pressure clearly improves learning and productivity. On the other hand, too much stress interferes with learning and healthy functioning. Certainly, medical school is demanding in terms of time and commitment and it is difficult academically. Studies of medical school stress over the past two decades have shown that medical students worry about their competency. They also worry about the quality of their relationships with significant others related to the fact that medical students, because of their arduous schedule, lack time for themselves and their loved ones. In addition, students are learning how to deal with death, disability, dismemberment, discomfort, and disease — all difficult arenas in which to spend 24 hours a day.

Little research has been done to compare stress reported by medical students with that reported by students in other graduate or professional programs. A recent study done at the University of Arizona used questionnaire data from four groups of students — medical students, law students, and graduate students from chemistry and psychology — to compare self-perceived stress levels. The hypotheses for the study were that stress levels would be higher among medical students than students from other programs, stressors would be program specific, and the utilization of support systems would differ among the four groups.

The results were interesting. The four groups of students were quite similar in background characteristics, except the mean age of the psychology students higher than the medical, law or chem students, and there were more wo students in the law and psycho groups than medicine and chemi accurately reflecting the population f which the samples were drawn. Me students reported more hours spe class, in laboratories or on the wards, did the other groups. The highest nun of study hours was reported by students.

Four kinds of stress were concep ized: stress related to being in a dem ing academic program (academic str stress related to restriction on time (stress); stress related to personal r tions to the academic environment of failing stress); and stress relate problems of society and the world (w stress). Law, psychology and medi students (in that order) reported sig cantly higher total stress scores chemistry students. Law students hac highest academic stress scores and fe failing stress scores. The highest stress scores were reported by medi and psychology.

The hypothesis that medical stud would report the highest stress level not supported. However, each stu group did perceive stresses specifi their own academic program stress, the utilization of support services diff among the groups, with medical stud more likely than others to seek help a school counselor or adviser, pos reflecting the availability of student a personnel in medical schools. On basis of questionnaire responses and dent comments, it seems clear although there are program-specific ferences, graduate education/pr sionalization itself is a process produces pressures perceived as stre in all four groups, as well as r rewards.

Obviously, all graduate and pr sional programs need to be exam critically to see whether the educat process could be modified to keep dent stress at a manageable level. A University of Arizona College of M

Student Affairs personnel provide a
ber of student services. Discussion
ps have been made available to stu-
s and should help to reduce inap-
riate stress levels. Also, both formally
informally, faculty efforts to reduce
s take place. Thus, although some
s is acceptable and inevitable, excess
s is avoidable. Because we feel that
ollege has a responsibility to minim-
ne stress of medical education, such
ts will continue at the University of
ona College of Medicine.

yn Heins, M.D.
Dean, College of Medicine
ey Nickols Fahey, Ph.D.
tor, Division of Social
pectives in Medicine
s J. Kettel, M.D.
, College of Medicine

ArMA Reports

**minutes in this section have been
densed. A complete copy will be
to any member requesting them.**

VERNING COUNCIL—HOSPITAL MEDICAL STAFF SECTION AND IZONA HOSPITAL ASSOCIATION LIAISON COMMITTEE

neeting of the Governing Council of Hospital Medical Staff Section of the ona Medical Association, Inc. and the ona Hospital Association Liaison mittee was held on Saturday, April 985, at the offices of the Arizona ical Association.

uck Shipley reported to the bers on activities for improvement e Comparative Cost Analysis Boo- for their information documents ared by the Tucson Program for rdable Health Care (TPAHC) and ly by the Arizona Chapter of Health- Financial Management Association he Arizona Hospital Association. Mr. ey also provided, for information, a nt AHA Paper, "Financing Care for Medically Indigent," (Notch Group Force). Following a lengthy discus- it was agreed that the members ld, prior to the next meeting, review documents provided, and the matter ed on the next meeting's agenda for rmination as to whether either form should be supported by ArMA and ArHA or whether new recommendations for revision should be developed as a joint effort between the two associations.

The members reviewed the action taken by ArMA's Executive Committee in meeting on March 22nd referring to this liaison the matter of support for establishment of a program for training and education of therapy technicians. Following comments relative to the reasoning behind the original request that the Association support such an effort, and a lengthy discussion, it was agreed that Dr. Ward communicate to the appropriate individuals that the liaison group understands that there is a real need for promoting education and training of physiatrists aides and that it is suggested that contact initially be made at the medical assistant school level to see if there is any interest in developing such a program.

Because of the interest generated by this subject in activities of physical therapists, Chic Older agreed to provide for the next meeting a chart indicating what currently *can* and *cannot* be done by physical therapists in Arizona.

Dr. Ward made an oral and slide presentation on professional liability, which was well received by the group and encouraged criticisms and suggestions to assist him in finalizing the presentation for the purpose of educating physicians and ultimately creating public awareness about this very vital subject.

The members also received the report of the AMA/AHA Joint Task Force on Hospital-Medical Staff Relationships (February 1985) for information.

The next meeting is to be held at ArMA at 10:00 a.m. on Saturday, June 1, 1985 to again consider the matter of the Comparative Cost Analysis Booklet, receive reports on Dr. Payne's and Mr. Wood's task for assignments, and review the final version of Dr. Ward's presentation.

TASK FORCE ON ECONOMICS OF QUALITY CARE OF THE GOVERNMENTAL SERVICES COMMITTEE

A meeting of the Task Force on Economics of Quality Care of the Governmental Services Committee of the Arizona Medical Association, Inc. was held at the Association's offices on Saturday, April 13, 1985.

In attempting to finalize its Proposed Resolution No. 9-85 for dissemination to the House of Delegates, the committee made a line by line review of same in light of recommendations thereon received from Dr. Eli Ginzberg and, following extensive discussion, it was moved and carried to approve and adopt the majority of the recommendations by Eli Ginzberg, Ph.D., following his review of the Task Force's proposed resolution No. 9-85 and that, based upon those recommendations, resolution No. 9-85, "Promotion of Effective Health Care," be drafted, incorporating the appropriate revisions for presentation to the 1985 Annual Meeting of the House of Delegates.

It was additionally agreed that the portion dealing with the specifics for a data base, yet to be written, would be presented to the House in a separate resolution.

The committee reviewed the Executive Summary of The Pritzlaff Commission on Long-Term Care, as endorsed by ArMA's Professional Committee and the Board of Directors, together with a proposed resolution regarding long-term care in Arizona and, following discussion, it was moved and carried that a resolution regarding a program for Long-Term Care in Arizona be submitted by the Professional Committee, the Board of Directors and this Task Force on Economics of Quality Care for consideration by ArMA's House of Delegates during its 1985 Annual Meeting.

PHYSICIAN'S HEALTH COMMITTEE

A meeting of the Physician's Health Committee of the Arizona Medical Association, Inc. was held at the Association's offices on Wednesday, April 17, 1985.

Because of the newness of the committee, each member, beginning with Dr. Damstra, introduced themselves, at the same time giving background on the nature of their practices and their interest in the area of physician impairment and participation in the planning of the new program.

The chairman called first upon Dr. Linkner, who had actively participated in the previous committee activities which were discontinued due to confidentiality and the reporting requirements under the current laws. Dr. Linkner briefly explained the format followed in making initial as well as follow-up contacts with "impaired physicians" and what he perceived as minimal, modest success, given the fact that the committee actually had no clout and no formal program under which to work.

Dr. Ward briefed the members on the Oregon program, which seems to be totally effective; the agreements reached with the Board of Medical Examiners to work hand-in-hand in the planned "contract" program; and the willingness of Dr. Damstra to serve, with partial sponsorship

by St. Luke's, as a much needed full-time director of the program so that control of caseload and uniformity of the program could be maintained.

In outlining some proposals for the new program to be established, Dr. Damstra advised the members that the first need was to disseminate information about the committee and the program structure to those who would probably be most apt to report preimpaired physicians, i.e., physicians, spouses, medical assistants; and it was the consensus of the group that the most effective means would be a slide presentation that could be revamped for the particular audience being addressed. The second segment of the program planning would be training of contact physicians to assist the committee and, lastly, to reach the public, through talk shows, etc., as to how the program is working.

It was agreed that Dr. Damstra would research all available literature and information which might currently be available through ArMA and develop imaginary presentations which could then be developed, with Dr. Ward's assistance, into a slide/tape format.

In an attempt to develop a plan to seek financial assistance for the funding of the new program, the committee determined that the slide presentation should be used in contacting the numerous sources which could in fact benefit from a successful program, i.e., Blue Cross/Blue Shield, CIGNA, ArHA, pharmaceutical companies, hospitals, providers, patients, brewers, distillers, etc., and that the presentation be accompanied by a basic budget, a list of other committed donors, and a brochure on the program.

Due to his active involvement in the Pima County Medical Society's "Physician Support Group," it was agreed that Dr. Hubert E. Wuesthoff be asked to serve as a member of the Physician's Health Committee.

MEDICAL ECONOMICS COMMITTEE

A meeting of the Medical Economics Committee of the Arizona Medical Association was held on Thursday, April 18, 1985, at 810 West Bethany Home Road, Phoenix.

Dr. Chaffee explained the reason for having the meeting was to gather opinions on how to approach the ICA about changing fee schedules for the coming year. Last year's approach was to recommend tying the fee schedule to the schedule of the Maricopa Foundation. The Foundation fees were submitted to the ICA in dollar form and have to be converted to code for a common language, which is very difficult to accomplish. The statistician doing this conversion pointed out there is very little difference in the two fee schedules, based on the work he has done so far.

A suggestion was made to approach the Commission from a more business oriented standpoint by making reference to the increase in MICA fees, etc.

Members from each specialty were asked to provide a list of the ten most common procedures relating to industrial cases which they perform, so a comparison chart can be made for the upcoming ICA hearing. The shortness of time for doing this was stressed.

As a second part of the proposed ArMA presentation it was suggested that since many procedures are obsolete and many new ones have been added, the CPT code book be presented to the ICA with a request that they adopt it for use in coding. They should be advised that the CPT book is acceptable by the federal government (Medicare/Medicaid), third party payors, etc., and is used nationwide.

Members were urged to get their list of procedures to Dr. Chaffee as soon as possible so the comparison study can be made.

A copy of the final letter of presentation to the ICA will be mailed to all committee members.

Arizona Medicine

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Future Meetings

following institutions and organizations have
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egory 1 credit. Physicians who participate in
grams which are designated Category 1 by
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ard the ArMA Certificate in CME and the AMA's
sician's Recognition Award.

JULY

**enty-First Annual Day of Surgery and
dical Seminar**
y 19, 20 & 21. Northern Arizona
versity, South Union Ballroom. To
ncide with the Flagstaff Festival of the
s. Sponsored by the Coconino County
dical Society. Contact: Bert McKinnon,
D., 1350 Rim Drive, Flagstaff, Arizona
02. Approved for Category 1 credits.

AUGUST

ral Health Conference
gust 1-3. Northern Arizona University.
onsor/Cosponsor: U of A College of
dicine Rural Health Office. Contact:
ne Sassoon, Program Coordinator, Rural
alth Office (602) 626-4469. Approved for
tegory 1 credit.

MONTHLY OR WEEKLY

Shrine Medics Meeting
Second Tuesday of each month, Humana Hospital, Phoenix, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

Pediatric Grand Rounds
Tuesday 7:30-8:30 a.m. in Phoenix:
1st Tues.—Phoenix Children's Hospital.
2nd Tues.—Maricopa Medical Center.
3rd Tues.—Phoenix Children's Hospital.
4th Tues.—St. Joseph's Hospital.
Sponsor: Phoenix Hospitals Affiliated Pediatric Program. Contact Paul S. Bergeson, M.D., P.O. Box 2989, Phoenix, Arizona 85062. Approved for 1 hour per session Category 1 credit.

Review of Forensic Pathology Current Case, Special Topics
Thursday, weekly, 11:00 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ 85008. Contact: Martin B. Kassell, M.D.
Inservice Training
1st Friday, 1:00-2:00 p.m., Room 5, Education Building.
Psychiatric Case Presentation
2nd Friday, 1:00-2:00 p.m. Room 5, Education Building.
Clinical Pathological Conference
3rd Friday, 1:00-2:00 p.m., Room 5, Education Building
Open Topic
4th Friday, 1:00-2:00 p.m., Room 5, Education Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.
Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.
Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.
Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.
Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.
Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.
Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.
Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed.D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact: Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.
Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.
CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.
Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.
Surgical Department Meeting
3rd Monday, 11:45 p.m.
Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.

Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.
Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.

Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F.
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713. Contact: Eric G. Ramsey, M.D., Approved for Category 1 credit.

Surgical Conference
Weekly, Monday 8:00 a.m., Contact: Eric G. Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m., Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m., Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 85008.

Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.
Tumor Board
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.

Anesthesiology Morbidity & Mortality Conference
Weekly, Mondays, 2:45 p.m.
Surgery Burn Grand Rounds
Weekly 7:30 a.m.
Medicine Chest
1st & 3rd Monday, 12 Noon.
Medicine GI
2nd & 4th Monday, 12 Noon.
Medicine Dermatology
5th Monday, 12 Noon.
Chest/Surgery
Weekly, Mondays, 1:30 p.m.
Ambulatory Pediatrics
Weekly, 2:45 p.m.
OB Problem Conference
Weekly, Tuesday, 7:30 a.m.
Orthopedic Conference
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.
Medicine Neurology
1st & 3rd Tuesday, 12 Noon.
Medicine Renal
2nd Tuesday, 12 Noon.
Emergency Medicine
4th Tuesday, 12 Noon.
OB/GYN—Tri-Hospital Perinatal Mortality
3rd Tuesday, 12 Noon.
OB/GYN—Departmental Grand Rounds
1st and 2nd Tuesday, 12 Noon.
GYN Endocrine Conference
4th Tuesday, 12 Noon.
Anesthesiology—General
Weekly, Tuesday, 2:45 p.m.
Review of GYN Pathology Slides
Weekly, Tuesday, 4:00 p.m.
Pediatric Grand Rounds
2nd Tuesday, 7:30 a.m.
Pathology Staff Inservice
Weekly, Wednesday, 6:45-7:50 a.m.
Anesthesiology Residents & CRNA's Conference
Weekly, Wednesday, 7:00 a.m.
OB/Neonatal Conference
Weekly, Wednesday, 7:30 a.m.
Surgery
Weekly, Wednesday, 7:00 a.m.
Surgery Hand Conference
Weekly, Wednesday, 7:30 a.m.
Psychiatry Staff
1st Wednesday, 11:00 a.m.
Psychiatry General Conference
2nd, 3rd, & 4th Wednesdays, 12 Noon.
Medicine Cardiology
1st Wednesday, 12 Noon.
Medicine Mortality
3rd Wednesday, 12 Noon.
Medicine Infectious Disease or Hemato
4th Wednesday, 12 Noon.
Pediatrics Renal/Endo Conference
1st Wednesday, 12:30 p.m.
Pediatrics Infectious Disease
4th Wednesday, 12:30 p.m.
Anesthesiology Staff Lecture
1st, 2nd & 4th Wednesday, 2:30 p.m.
Surgery Morbidity & Mortality Conferen
1st, 2nd & 4th Wednesday, 3:30 p.m.
Anes/Surgery Joint Traum Conference
3rd Wednesday, 3:30 p.m.
Surgery Urology Staff
3rd Thursday, 7:30 a.m.
Anesthesiology Journal Club
4th Thursday, 8:00 a.m.
Ambulatory Pediatrics
Weekly, Thursday, 8:00 a.m.
Surgery Burn Chart Rounds
1st, 2nd, & 3rd Thursdays, 8:00 a.m.
Burn Mortality Conference
4th Thursday, 8:00 a.m.
Medicine Problem Case Conference
1st Thursday, 12 Noon.
Medicine Rheumatology
2nd Thursday, 12 Noon.
Medicine Staff & House (Separate)
4th Thursday, 12 Noon.
OB/GYN Resident Conference
1st, 2nd & 3rd Thursday, 12 Noon.
Vascular Surgery Conference
1st, 2nd & 4th Thursday, 12:30 p.m.
Combined GI & Surgery Conference
3rd Thursday, 12:30 p.m.
Anesthesiology Chief Resident's Lectur
Weekly, Thursdays, 2:45 p.m.
Orthopedic Surgery Basic Sciences
Weekly, Thursdays, 5:30 p.m.
OB/Surgery Pathology
Weekly, Fridays, 7:30 a.m.
Orthopedic Surgery Fracture X-Ray Conference
Weekly, Fridays, 7:30 a.m.
Medicine Endocrinology
1st Friday, 12 Noon.
Medicine Infectious Disease
2nd Friday, 12 Noon.
Medicine/Radiology Conference
3rd Friday, 12 Noon.
Medicine Cardiology
4th Friday, 12 Noon.
OB/GYN Tumor Board
4th Friday, 12 Noon.

Surgery Tumor Board
1st, 2nd & 3rd Friday, 12 Noon.
GYN Endo Conference
1st & 3rd Friday, 12:30 p.m.
Pediatric Radiology Conference
1st & 2nd Friday, 12:30 p.m.
Pediatric Dermatology
3rd Friday, 12:30 p.m.

diatric Infectious Disease
n Friday, 12:30 p.m.
rgery Rehab Rounds
eekly, Friday, 1:30 p.m.
rgery Selected Readings
d & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

1 West 10th Place, Mesa, Arizona 85201.
ontact: E. John Wickman, M.D.
ontinuing Medical Education Programs
iesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

25 N. 20th Ave., Phoenix, AZ 85015.
ontact: J. Burr Ross, M.D., Approved for
ategory 1 credit.
inical Conferences
t, 2nd & 3rd Tuesdays, 12 noon,
n Floor Auditorium.
PC or Medical-Surgical Forum
n Tuesday, 12 noon,
n Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

12 North 16th St., Phoenix, AZ 85016.
ontact: Leland L. Fairbanks, M.D.,
pproved for Category 1 credit.
inical Staff Teaching Conference, Rm. A.
eekly, Wednesday, 8:00-9:00 a.m.
mily Practice/Emergency Room
eaching Conference
hursday, Weekly, 7:30-8:30 a.m.,
onf. Rm. A, Contact: Drs. L. Fairbanks &
Y. Hooper.

PHOENIX MEMORIAL HOSPITAL

01 S. 7th Ave., Phoenix, AZ 85036.
ontact: George Scharf, M.D. Approved for
ategory 1 credit.
onthly Medical Education Seminar
d Monday, 6:30 p.m., Kiva Conf. Rm.
inical Conferences
eekly, Tuesday, 12:30 p.m., Kiva
onference Rm.
ychiatric Clinical Conference
d Friday, 11:30 a.m., B-Wing Conf. Rm.,
ontact: Medical Staff Secretary.
mor Board Conference
eekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

00 East Osborn, Scottsdale, AZ 85251.
ontact: Tom Disney, M.D., Approved for
ategory 1 credit.
mily Practice Conference
t Monday, 12:30 p.m., Doctors' Lounge.
nergency Medical Services Conference
d Monday, 12:30 p.m., Doctors' Lounge.
eurology/Neurosurgery Conference
d Monday, 12:30 p.m., Doctors' Lounge.
PC Conference
h Monday, 12:30 p.m., Doctors' Lounge.
Pediatrics Conference
5th Monday, 12:30 p.m., Doctors' Lounge.
Pulmonary Conference
1st Tuesday, 12:30 p.m., Doctors' Lounge.
Cardiology Conference
2nd Tuesday, 12:30 p.m., Doctors' Lounge.
Surgery Conference
3rd Tuesday, 12:30 p.m., Doctors' Lounge.
Resident Grand Rounds
4th Tuesday, 12:30 p.m., Doctors' Lounge.
Medical Subspecialties
5th Tuesday, 12:30 p.m., Doctors' Lounge.
Uronephrology Conference
3rd Thursday, 12:30 p.m., Doctors' Lounge.
Tumor Conference
4th Thursday, 12:30 p.m., Doctors' Lounge.
GI/Med/Surg/Radiology Conference
2nd Friday, 12:30 p.m., Doctors' Lounge.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon,
Contact: M. Maximov, M.D.
Dermatology Conference
4th Monday, 5:00 p.m.,
Contact: R. Miller, M.D.
Endocrinology Conference
4th Monday, 12 Noon,
Contact: M. Parker, M.D.
Nephrology Conference
2nd Monday, 12 Noon,
Contact: Stephen Seltzer.
Psychiatry Department Meeting
3rd Monday, 12 Noon,
Contact: Howard Winkler, M.D.
Perinatal Conference
2nd Tuesday, 7:00 a.m.
Surgical Conference
2nd Tuesday, 7:15 a.m.
Hematology Conference
4th Tuesday, 12 Noon,
Contact: Gerald Giordano, M.D.
Pulmonary/Infectious Disease Conference
Weekly except 4th, Tuesday, 12 Noon,
Contact: B. Friedman, M.D.
Orthopedic Conference
1st Tuesday, 7:30 p.m.,
Contact: Jay Katz, M.D.
Pediatric Grand Rounds
1st & 3rd Tuesdays, 12:30 p.m.,
Contact: Dr. Lightner.
Neurophysiology Conference
2nd Tuesday, 5:00 p.m.,
Contact: Robert Foote, M.D.
Clinical Pathology Conference
Last Wednesday, 8:00 a.m.,
Contact: Dr. Fuchs.
Medical Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: M. Fuchs, M.D.
Neurology-Neurosurgery Conference
Weekly, Wednesday, 12 Noon,
Contact: H. W. Buschsbaum, M.D.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: N. Komar, M.D.
Tumor Conference
Weekly, Thursday, 12 Noon,
Contact: Cancer Committee.
GI Conference
Weekly, Friday, 12 Noon,
Contact: Charles Sanner, M.D.
Interhospital Nuclear Medicine Conference
Weekly, Friday, 7:15 a.m.,
Contact: S.V. Hilts, M.D.
OB/GYN Conference
1st Friday, 7:30 a.m.,
Contact: Charles Parker, M.D.
OB/GYN Pathology Conference
3rd Friday, 7:30 a.m.,
Contact: R. Spark, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.
Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5,
Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5,
Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435,
Contact Dr. Benene, Ext. 786
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134,
Contact: Dr. Russo, Ext. 362
and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134,
Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference
1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.
G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon,
Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410,
Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m.,
Room 4115, Contact: Dr. Rohwedder,
Ext. 388.
Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435,
Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.
Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5,
Contact: Dr. Zeller, Ext. 272

Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435, Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512, Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435, Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134, Contact: Dr. Haddad, Ext 418.
Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Contact Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134, Contact: Dr. Cintora, Ext. 417.

ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.

Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am., Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium.
Chest Conference
4th Monday, 12:15 p.m., Phillips Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips Auditorium.
Psychiatric Conference
4th Friday, 11:30 a.m. — 12:30, Auditorium.
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.

OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m., 1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m., Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.m., Pediatric Department.
Pediatric Grand Rounds
4th Tuesday, 7:30-8:30 a.m., Contact: J. Kipp Charlton, M.D.
ECG Conference
Weekly, Tuesday, 12:30 p.m., Pediatric Department.
Medical Grand Rounds
Weekly, Wednesday, 8:00 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 8:00 a.m., PIMC.
Visiting Professor Informal Presentation
Weekly, Thursday, 9:30 a.m., 1st Floor Conf. Room.
Visiting Professor Formal Presentation
Weekly, Thursday, 12:30 p.m., PIMC.
Nephrology Conference
Weekly, Fridays, 12:30 p.m., Pediatric Department.

ST. JOSEPH'S HOSPITAL TUCSON

350 N. Wilmot Road, Tucson, AZ 85711
Contact: Yvonne Clingerman, Medical Staff Office. Approved for Category 1 credit.
Current Concepts in Medicine
Weekly, Tuesday, 12 Noon, Auditorium
A Talk on Allergies
Weekly, Tuesday, 12 Noon, Auditorium
Surgery Department Conference
4th Monday, 12 Noon, Auditorium
Hematology/Oncology Conference
Last Wednesday, 12 Noon, Contact: Nick Mansour, M.D.
Ophthalmology Case
2nd Tuesday, 7:30 a.m.
Ophthalmology Society
4th Tuesday, 6:00 p.m., Auditorium
Contact: Leonard Joffe, M.D.

ST. MARY'S HOSPITAL & HEALTH CENTER

1601 W. St. Mary's Road, Tucson, AZ 85703. Contact: see below.
Monthly Specialty Conference — Dept. of Surgery
1st Monday, 7:30 a.m., Century Rm. A., Contact: Med. Staff Office.
Joint Liver Conference - Lab Conference Room
2nd Monday of each month - 12:00 noon.
Grand Rounds: Medical, Surgical, Family Practice, Pathology, Radiology
Weekly, Thursday.
Emergency Medicine Lectures
Weekly, Thursday, 8:00 a.m., Century Rm. A.
Cardiology Conference
Weekly, Friday, 8:00-9:00 a.m., Century Rm., Contact: Anthony Forte, M.D.

PRESCOTT VETERANS ADMINISTRATION HOSPITAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
Medical Rounds
1st & 3rd Thursdays, 10:00 a.m.-2:30 p.m.
Surgical Rounds
4th Thursday, 10:00 a.m.-2:30 p.m.

TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixtieth Ave., Tucson, AZ 85723. Contacts listed below. Approved Category 1 credit.
Medical/Surgical Chest Conference
Weekly, Tuesday, 2:00 p.m.,
Contact: Dr. Young.
Medical Grand Rounds
Weekly, Wed., 12:00-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC),
Contact: Jay Smith, M.D.
Surgical Grand Rounds
Weekly, Wed., 4:00 p.m.,
Contact: Dr. Putnam.
Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m. Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107,
Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Co
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m.,
Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma, Az 85364. Contac Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

U OF A HEALTH SCIENCES CENTER

Sponsor: U of A College of Medicine, Tucson, AZ 85724. Robert M. Anderson, M.D., Dir. of CME. Contact: See below. Approved for Category 1 credit.
Anesthesiology Board Review Conferenc
2nd & 4th Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contacts: Drs. Vaughn & Kryc.
Anesthesiology Basic/Clinical Sciences Lectures
Weekly, Thursday, 4:00-5:00 p.m., Room 5403.

esthesiology Case Discussion
ekly, Wednesday, 7:00 a.m., AHSC,
ing Rm. C&D.
esthesiology Resident Presentation
Monday, 4:00-5:00 p.m., AHSC Dining
om, C&D, Contacts: Drs. Otto &
ngut.
ncer Center Tumor Board Seminar
Tuesday, Monthly, 12:00-1:00 p.m.,
C Auditorium, Contact: Cancer Center.
rdiac Catheterization Conference
ekly, Friday, 4:30 p.m.,
ntact: Dr. Ewy.
rdiology Non-invasive Conference
ekly, Friday, 3:30 p.m.,
ntact: Dr. Ewy.
cson Cardiac Society
Thursday, 6:30 p.m., Arizona Inn,
ntact: Karen Garcia.
nical Immunology, Allergy &
eumatology Rounds
ery Friday, Noon-1:00 p.m. Contact:
nn Boyer, M.D., Dept. of Internal
dicine.
rebrovascular Disease Conference
ndays, 5:00-6:00 p.m., Weekly,
. 5505., Contact: Jerry Goldstone, M.D.,
pt. of Surgery.
rmatology Conference
Monday, 5:15 p.m., AHSC,
ntact: Dr. R. Friedman.
rmatology Rounds
ekly, Wednesday, 11:30 a.m.,
ntact: Dr. Lynch.
r, Nose & Throat Conference
ekly, Wednesday, 4:00 p.m.,
ntact: Dr. S. Coulthard
docrinology Seminar
ekly, Thursday, 12:00-1:00 p.m.,
ntact: Dr. Johnson.
ergency Medicine Grand Rounds
esdays, 9:00 a.m., AHSC,
ntact: Dr. Sanders.
Pathology Conference
Friday, 1:30 p.m., AHSC,
ntact: S. Paplanus.
Radiology Conference
d & 4th Mondays, 7:30 a.m., AHSC,
ntact: Dr. T. Hunter.
ad & Neck Tumor Management
nference
ekly, Wednesday, 4:00 p.m.,
ntact: Dr. Murrell.
matology-Oncology Clinical Conference
& 5th Tuesdays, Noon-1:00 p.m.,
. 6505. Contact: S. Salmon, M.D.,
pt. of Internal Medicine.
dical Grand Rounds
ekly, Wednesday, 12:00-1:00 p.m.,
SC, Contact: Dr. J. Smith.
rbidity/Mortality In E.M.
d Tuesday, 9:00 a.m., AHSC,
ntacts: Drs. Hughes & Alcorn.
uromuscular Disease Conference
ekly, Friday, 11:30 a.m.,
ntact: Dr. Stern.
uropathology Case Review
ekly, Friday, 8:30 a.m., UAHSC,
ntact: Dr. P. Johnson.
uroradiology Conference
ekly, Thursday, 5:00 p.m.,
ntact: Dr. P. C. Christenson.
uromuscular Journal Conference
d & 4th Thursdays, 7:00-9:00 p.m.,
ntact: Dr. Stern.
urosciences Seminar
ekly, Tuesday & Friday, 7:30 a.m.,
SC, Contact: Dr. C. Bamford.

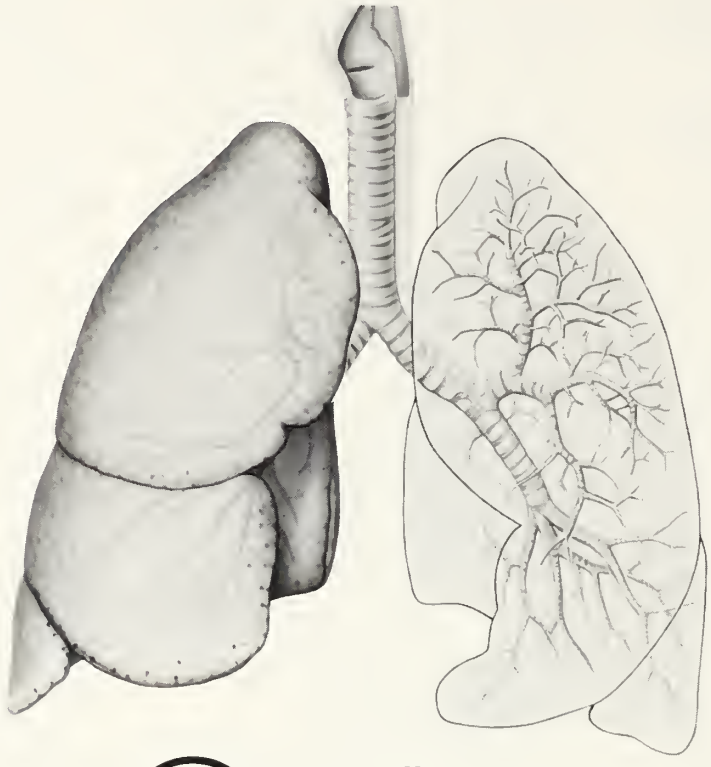
Nuclear Medicine
Weekly, Thursday, 7:30 a.m., AHSC
Radiology Conference Rm.
OB/GYN Lectures
Weekly, Friday, 3:30 p.m., AHSC,
Contact: Dr. C. D. Christian.
Ophthalmology Grand Rounds
3rd Friday, 7:30 a.m., AHSC,
Contact: Dr. J. Herschler.
Ophthalmology Retina Fluoro. Conference
Weekly, Thursday, 5 p.m., AHSC,
Contact: Dr. H. Cross.
Orthopedic Rounds
Saturday, 8:00 a.m., Contact: Dr. Peltier.
Pain Conference
3rd Monday, 4:00-5:00 p.m., AHSC Dining
Rm. C&D, Contact: Drs. Hameroff & Cork.
Pathology Conference
Weekly, Monday, 12 noon, AHSC,
Contact: Dr. C. D. Christian.
Pathology Seminar
Weekly, Friday, 4:30-5:30 p.m., AHSC,
Rm. 5120. Contact: Dr. P. Finley.
Tucson Pathologist Conference
1st Monday, 7:30 p.m., AHSC,
Contact: Dr. A. R. Graham.
Pediatric Grand Rounds
2nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
Contact: Dr. H. Thompson.
Pediatric Problem Patient Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Lillian Valdes-Cruz.
Pediatric Research Forum
Weekly, Tuesday, 7:30 a.m.,
Contact: Dr. Otakar Koldovsky.
Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.
Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.
Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.
Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.

Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.
Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.
Poison Control
Weekly, Wednesday, 4:00 p.m.
Contact: Dr. Tong.
Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.
Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.
Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.
Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.
Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.
Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.
Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.
Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.
Trauma Conference
Thursday, 4:00-5:00 p.m. AHSC, Rm. 5505.
Tucson Ultrasonography Group
Weekly, Wednesday, 4:30 p.m., AHSC,
Contact: Dr. I. Freundlich.
General Urology Conference
Weekly, Tuesday & Thursday, 12:00 noon,
AHSC & VA Hospital
Contact: Dr. G.W. Drach.
Vascular Surgery Conference
Weekly, Tuesday, 4:00-6:00 p.m., AHSC,
Contact: Dr. J. Goldstone.

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H. influenzae, H. influenzae, S. pyogenes
(ampicillin-susceptible) (ampicillin-resistant)

Brief Summary: Consult the package literature for prescribing information

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions* — If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor is administered to a nursing woman.

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[0617B2R]

Note: Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Housing is provided, and K-12 schooling is available at the townsite.

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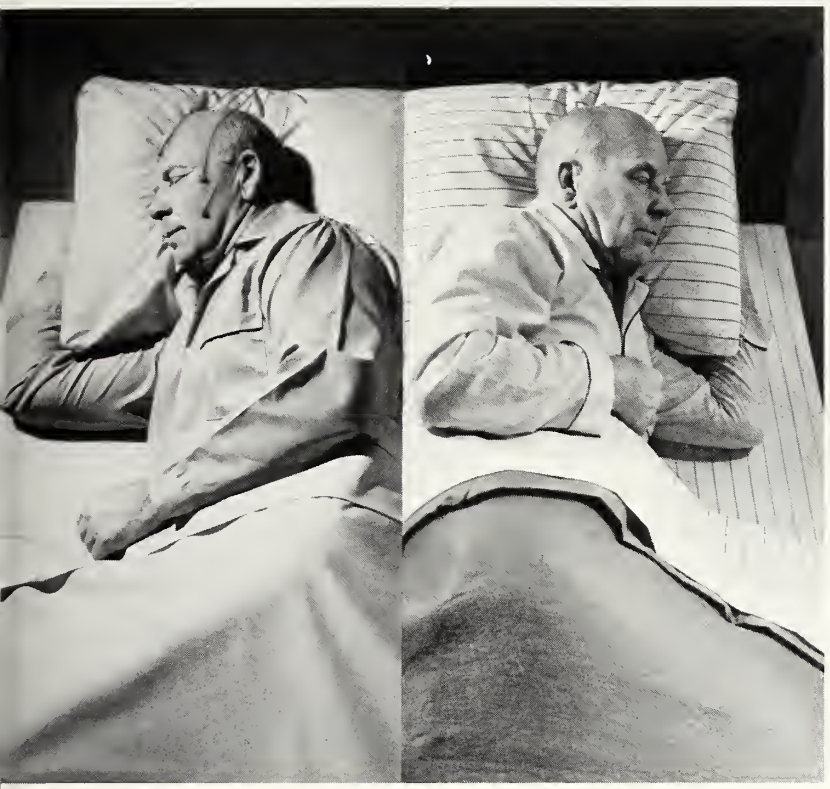
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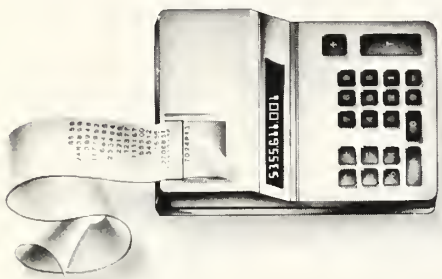
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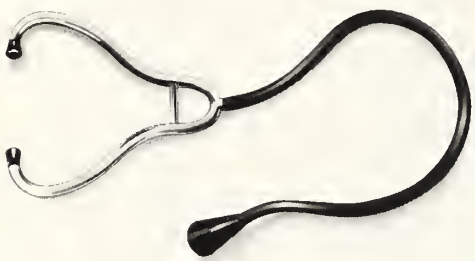
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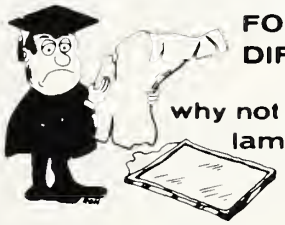
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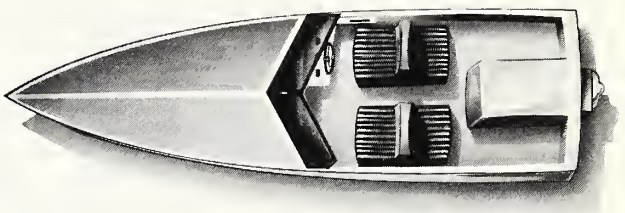
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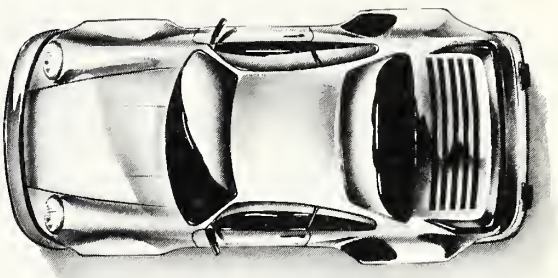
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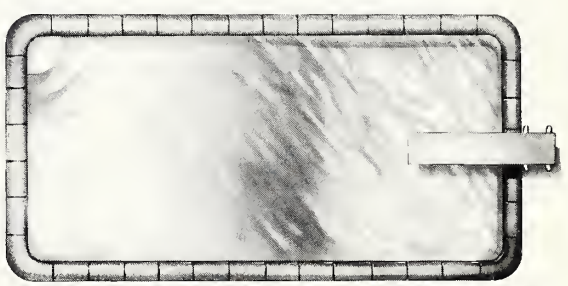
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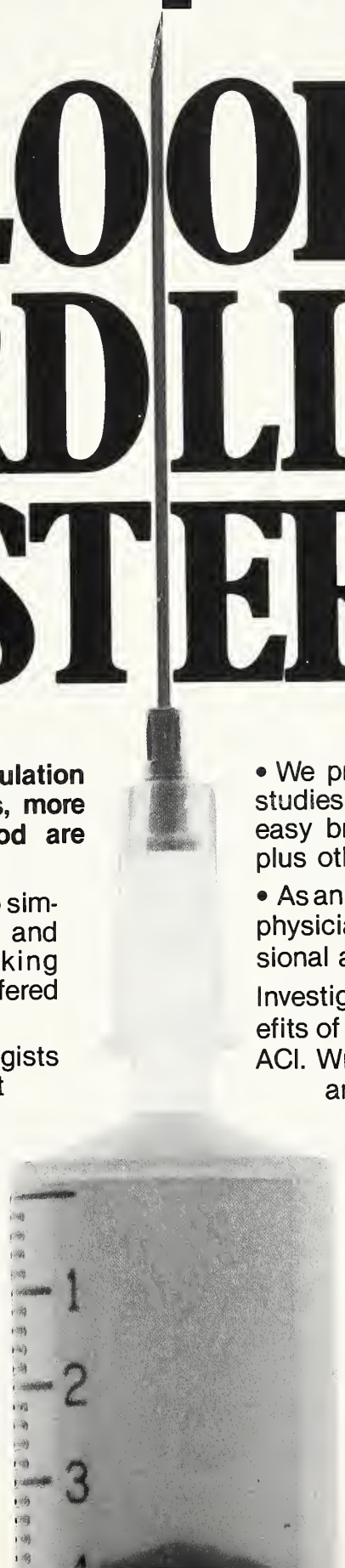
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Clinical Dermatology:
An Exercise in Gross Dermatopathology

John Kwittken, M.D.

Editors:
Robert Allen Schwartz, M.D.
Ronald C. Hansen, M.D.

Abstract

The artful and skillful practice of dermatology is dependent upon a thorough knowledge and understanding of the basic clinical lesions which can be divided into four categories — *special primary, primary, secondary* and *primary or secondary*. Clinical dermatology is gross dermatopathology. All of the previously published lists of basic clinical lesions vary considerably in both content and definition and none of them is complete. I have attempted to provide a practical, rational and acceptable complete list with definitions of the various basic clinical lesions which would enable clinicians to converse in the language of gross dermatopathology with total comprehension. Solitary lesions and the size range of multiple lesions must be measured accurately. It is suggested that the ambiguous and incorrect terms of "tumor," "flesh-colored," "lichenoid," "infiltrated" and "granuloma" or "granulomatous" be abandoned in clinical descriptions.

Any physician who has a clear understanding of basic pathologic concepts has a strong foundation upon which to practice the art of medicine. In dermatology, this requires a thorough knowledge of the basic clinical lesions — gross dermatopathology. These lesions are recognized and distinguished from each other through the combined use of our visual and tactile senses. Surprisingly and unfortunately, the many published lists vary considerably, not only in content but also in definition,[1-7] leaving both the student and practitioner in a state of perplexity. Because of this lack of a common language, verbal and written communications among dermatologists are often incomprehensible. In fa many dermatologists avoid descriptions of the patien gross skin pathology by using such terms as area, lesio rash, eruption and dermatosis. Additionally, these li are incomplete because none of them includes all of t basic clinical lesions encountered in dermatology. In t ensuing paragraphs, I have attempted to provide a pra tical, rational and acceptable complete list with defi tions of the various basic clinical lesions which w enable clinicians to converse in the language of gro dermatopathology with total comprehension. The si nificant modifications will be discussed briefly and t abandonment of several ambiguous and incorrect ter which frequently are used clinically will be suggeste

Dermatologic lesions may be classified as *spec primary, primary secondary* and *primary or seconda* A *special primary* lesion is a characteristic cutaneo alteration peculiar to and virtually diagnostic of a part ular skin disease, of which there are only a small numb A *primary* lesion is a gross pathologic alteration pecul to skin and visible mucous membrane (conjuncti nasal mucosa, oral cavity, lips, distal urethra, clito inner surface of the labia minora and vagina) whi represents an initial manifestation of a disease. A seco *dary* lesion is an alteration occurring within a *prima* lesion either during the evolution of a disease or pr duced by extraneous causes. It cannot be overemph sized that *solitary lesions and the size range of multip lesions be accurately measured in every case.*

The *special primary* lesions are listed and defined follows:

Comedo: A dilated pilosebaceous canal plugg with sebaceous and keratinous material, representi the characteristic lesion of acne vulgaris; a clos comedo is a skin-colored papule and is termed *whit head*; an open comedo is a skin-colored papule with central black plug and is termed *blackhead*.

Burrow: A fine threadlike, tortuous transluce mite-containing tract confined almost entirely to t stratum corneum, representing the characteristic lesio of scabies.

Scutulum: A yellow saucer-shaped crust of t scalp, representing the characteristic lesion of favus.

The *primary* lesions are listed and defined as follow

Macule: A well circumscribed, discolored or ski colored, flat or depressed lesion of normal or abnorm consistency measuring up to 1.0 cm. in maximu dimension.

Patch: Similar to a macule but larger.

Papule: A well circumscribed solid elevation abnormal consistency measuring up to 1.0 cm. in max mum dimension which does not extend deeper than t papillary cutis.

Plaque: Similar to a papule but with a plateau-lik elevation exceeding 1.0 cm. in horizontal and measurin up to 1.0 cm. in vertical dimension; it may be formed als by groups of papules.

Nodule: A well circumscribed, solid and/or cysti

From: Associate Clinical Professor of Dermatology (Dermatopathology), Mount Sinai School of Medicine, New York City, New York. Reprint requests to John Kwittken, M.D., P.O. Box K, Tenafly, New Jersey 07670.

vated, flat or depressed lesion of increased consis-cy and variable depth; if elevated, then measures ater than 1.0 cm. in vertical dimension if it does not end deeper than papillary cutis; if extends deeper n papillary cutis, then lesion may be elevated, flat or pressed and of variable size.

Wheal: An acute, poorly circumscribed, white, or skin-colored, smooth, firm transient elevation of iable size formed by local dermal edema.

Purpura: A well circumscribed, flat, red or purple ravascular deposit of blood of normal or increased nsistency to palpation and of variable size; it is also med *petechia* if it measures 0.1 cm. or less in diameter l *ecchymosis* if larger.

Erythroderma: A poorly circumscribed flat zone erythema of normal or increased consistency and iable size and frequently involving virtually all of the dy surface; if scaly, then termed *exfoliative* throderma.

he *secondary* lesions are listed and defined as ows:

Crust: A dried exudate composed of serum and lular detritus overlying an area on which epidermis or thelium is lost or damaged.

Erosion: A loss of part or all of the epidermis or thelium.

Ulcer: A loss of the epidermis or epithelium with east a portion of dermis or lamine propria and at most entire dermis and subcutaneous tissue or lamina pria.

Fissure: A linear break involving epidermis or thelium and subjacent dermis or lamina propria.

Lichenification: A zone of cutaneous induration d thickening with resultant exaggeration of skin mark-s caused by chronic irritation, usually scratching.

he lesions which may be *primary* or *secondary* are ed and defined as follows:

Induroderma: A poorly circumscribed flat or pressed zone of increased consistency and variable pth frequently involving large areas of the body sur-e, often associated with swelling; visible surface nges may range from virtually none to all possible.

Blister: A transient well circumscribed elevation nfined to or immediately subjacent to the epidermis epithelium containing free fluid.

Pustule: Similar to a blister but contains free pus.

Telangiectasia: A dilated superficial blood vessel.

Scale: A loosely adherent or unattached fragment horny epithelium.

Excoriation: A linear or punctate erosion or perficial ulceration produced mechanically, usually the fingernails.

Pigmentation: A discoloration of the skin or cous membrane.

Atrophy: A thinning of the skin or mucous mem-ne due to loss and/or size reduction of tissue mponents.

he reader will note that, except for the *special prim-* lesions, in comparison with previous lists major mod-ifications have been made within the remaining types of lesions. Contrary to previous definitions, the *macule* and *patch* need not be discolored. They may be skin-colored and well circumscribed to the palpating hand. Also, these two lesions as well as the *nodule* need not be only flat but also may be depressed, a change that always indicates *atrophy*. *Erythroderma* is a new addition to the list of *primary* lesions. It is a well known term and may represent an initial manifestation of several diseases such as a drug eruption, psoriasis, seborrheic dermatitis and a malignant reticulosis. It is also important to realize that besides color, consistency and superimposed *secondary* lesion changes, *primary* lesions may also have various surface characteristics such as shiny, dull, wrinkled, pitted, smooth and rough.

Although not generally recognized, there are several lesions which may be either *primary* or *secondary*. Because of an obvious need, I introduced the term *induroderma*. It represents a *primary* lesion in several diseases such as morphea, erythema induratum, systemic scleroderma, scleredema, scleromyxedema, generalized myxedema, chronic lymphedema, edema and sclerema neonatorum. It commonly represents a *secondary* lesion in scars of varied causes. As you will note, since a scar is, in reality, a clinical entity manifesting itself as a *secondary* lesion, I have not included this in the list of *secondary* lesions. While some lists use the term *sclerosis* in lieu of *induroderma*, I find this term too restrictive since it means a hardening or induration due to fibrosis only. I believe that the term *blister* should replace the terms vesicle and bulla because size distinction serves no useful purpose. While a *blister* represents a *primary* lesion in pemphigus and bullous pemphigoid, it represents a *secondary* lesion in lichen planus and urticaria pigmentosa. A *pustule* is the *primary* lesion of impetigo contagiosa and subcorneal pustular dermatosis and is a *secondary* lesion of various impetiginized dermatoses. *Telangiectasia* is the *primary* lesion of angioma serpiginosum and rosacea and a *secondary* lesion within the various poikolodermas. A *scale* is the primary lesion of the various ichthyoses and a *secondary* lesion within a multitude of dermatitides. An *excoriation* is the *primary* lesion of neurotic excoriations and a *secondary* lesion of many other extremely pruritic dermatoses. *Pigmentation* is the *primary* lesion of argyria and a tattoo but is a *secondary* lesion in the various poikilodermas and dermatitides associated with secondary melanosis. *Atrophy* may be epidermal (or epithelial), dermal (or involve lamina propria) and subcutaneous. It is a *primary* lesion in lupus erythematosus and lichen sclerosus et atrophicus (epidermal), anetoderma and focal dermal hypoplasia (dermal), striae distensae (epidermal and dermal) and progressive lipodystrophy (subcutaneous). It is a *secondary* lesion following trauma or of various dermatitides and may involve any or all levels of the skin or mucous membrane. One should note also that two *primary* lesions may occur together. Examples of such include *scales* within the *macules* and *patches* of ichthyosis,

atrophy within the depressed *macules* and *patches* of atrophoderma of Pasini and Pierini and *pigmentation* within the *macules* and *patches* of lentigines.

There is also a group of terms which is used often in clinical descriptions which I feel should be discarded. These include the terms tumor, flesh-colored, lichenoid, infiltrated and granuloma or granulomatous. The meaning of the word "tumor" is extremely broad and, hence, ambiguous and it is recommended that this term be abandoned. Although the word flesh may be used to signify skin, it generally refers to muscular tissue (meat) or adiposity. Since the term "flesh-colored" is used to indicate that a skin lesion has the color of the patient's normal skin, it is suggested that this term be replaced by the word "skin-colored" which is accurate and clearly understood. "Lichenoid" is an ambiguous and incorrect term intended to indicate that a lesion clinically resembles lichen planus. "Lichen planus-like" would be a logical replacement. In order to indicate an increase in consistency to the palpating hand, both dermatologists and textbooks of dermatology use the term "infiltrated." Used in this manner, this word is nonexistent in the English language. It is actually the past tense of the verb "to infiltrate" and means, in this setting, the occupation of a localized section of skin or mucous membrane by more matter, cellular or non-cellular, than is normally present. "Indurated" would be the suitable term to use in this regard. The terms "granuloma" and "granulomatous" often are used clinically for a *purely histologic connotation* of a pathologic process which may present itself in the form of a variety of *primary* lesions (*macule, patch, papule, plaque,* and *nodule*) and, hence, should not be used in clinical descriptions of dermatologic lesions.

Summary

Clinical dermatology is gross dermatopathology and encompasses four categories of basic lesions—*special primary, primary, secondary* and *primary* or *secondary*. Previous lists have been modified and an attempt has been made to provide a practical, rational and acceptable complete list which would enable clinicians to converse in the language of gross dermatopathology with total comprehension. Accurate measurements of solitary lesions and size range of multiple lesions are emphasized. The abandonment of several ambiguous and incorrect clinical terms has been suggested.

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Endocrinology

Insulinoma in Pregnancy

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Abstract

Insulinoma presenting in pregnancy is an exceedin rare event. We report a patient managed medically d ing a successful full term pregnancy with subseque surgical removal of an insulinoma postpartum. O patient's clinical course can be explained by the me bolic interactions between an insulin secreting tum and the normal hormonal changes of pregnancy.

Introduction:

Significant advances in the diagnosis of organic hyp glycemia secondary to islet cell tumors of the pancre have recently been made.[1-3] An exceedingly rare pr sentation of an insulinoma is one that occurs duri pregnancy. Only five cases of insulinoma complicati pregnancy have been mentioned in the Engli literature.[4-7] We report a case of an insulinoma whi presented in the first trimester of pregnancy, was ma aged conservatively throughout pregnancy and was su cessfully treated surgically after the delivery of a norm term infant.

Case Report

A 24-year-old $G_3P_1AB_1$ American Indian female, pr viously employed as a medical records clerk, was in goo health until approximately ten weeks gestation whe she noted episodes of circumoral parasthesias, trem lousness and blurred vision soon after awakening ar prior to eating breakfast. She then had several episod of confusion and somnolence, occurring prior to brea fast, which resolved with intravenous dextrose given in local emergency room. During one such episode h

From: The Departments of Medicine, Pathology and Radiology, Go Samaritan Medical Center, Phoenix, Arizona, and the Public Hea Service Indian Hospital, Keams Canyon, Arizona (Dr. North). Repr requests to James L. Bernene, M.D., Director, Medical Service, Go Samaritan Medical Center, 1111 East McDowell Road, Phoenix, A zona 85006.

ing serum glucose was 21 mg/dl with a simultaneous nunoreactive insulin level of 29 uU/ml, yielding an nunoreactive insulin-to-glucose ratio (IRI:G) of .[1-3] The patient had no significant past medical his- and no history of nightmares, diaphoresis or other ptoms of hypoglycemia prior to this pregnancy. She ied the use of ethanol, insulin or oral hypoglycemic nts. The patient was then transferred to our medical ter for evaluation of her fasting hypoglycemia.

hysical examination was normal except for mild esity and a uterine size of approximately 12 weeks tation. Admission laboratory studies including a rning cortisol and thyroid functions were normal. sma B-HCG was positive.

A 72 hour fast was begun, but was stopped after five urs when the patient developed blurred vision. At t time her serum glucose was 32 mg/dl with an insulin el of 4.9 uU/ml (IRI:G ratio 0.15). Because of the crepancy between the high IRI:G ratio obtained at patient's local hospital and the low value obtained at hospital, a repeat fast was performed. The patient in developed blurred vision after five hours with a cose of 36 mg/dl and an insulin level of 23 uU/ml I:G ration 0.64). The proinsulin level was 0.10 uU/ml rmal <2.2 uU/ml) and the C-peptide level was 3.6 /ml (normal fasting <4 ng/ml) at that time.[1-3] Serum tone was negative throughout the fast. Serum tolbu- ide and tolazamide levels were undetectable,[8] as re bovine and porcine insulin antibodies.[9] It was felt patient probably harbored an insulinoma as the se of her fasting hypoglycemia. However, further gnostic procedures such as CT scanning and angio- phy could not be safely performed because of the ient's pregnancy.

The patient was therefore managed throughout the nainder of her pregnancy with feedings of complex bohydrates every three hours. Her symptoms of poglycemia became less frequent and less severe as r pregnancy progressed. She had occasional episodes circumoral parasthesias and diaphoresis, but no ious episodes of hypoglycemia. She had an uncom- cated vaginal delivery of a normal term, 8 pound 5-1/2 nce male with Apgars of eight and nine. Approxi- tely 19 hours after delivery she again developed mptoms of hypoglycemia with a serum glucose of 27 /dl. Despite institution of frequent feedings by her cal physician, in the first two weeks postpartum she d several major motor seizures associated with hypo- ycemia and was again admitted to our medical center. Breast feedings were discontinued as it was felt these ght be exacerbating her hypoglycemia through creased caloric loss from lactation.[4,5,20] She remained e of symptoms with serum glucoses greater than 80 /dl once breast feedings were discontinued and with ntinued frequent food ingestion. A postpartum fast s performed with the patient developing symptoms of poglycemia at six hours with a serum glucose of 34 /dl and an insulin level of 28 uU/ml (IRI:G ratio 0.82). CT scan of the abdomen was normal. Selective angiography revealed a probable tumor blush in the body of the pancreas. Because of the possibility of multiple tumors not detected angiographically or the possibility of a false-positive arteriogram,[1,10,11] transhepatic portography with selective venous insulin sampling was performed.[12,14] A sudden step-up in insulin level from 55 to 780 uU/ml was found along the splenic vein (Figure 1). At exploration a 2 cm tumor histologically consistent with an insulinoma was enucleated from the inferior surface of the midpancreas. Immuno-staining showed focal positivity for insulin and rare scattered cells positive for pancreatic polypeptide.[15,16] The patient's fasting serum glucoses returned to normal and she had no further symptoms of hypoglycemia. At the time of discharge her fasting serum glucose was 103 ng/dl with an insulin level of 18 uU/ml (IRI:G ration 0.17).



Figure 1
Transhepatic portography with selective venous insulin sampling showing a sudden step-up in insulin level from 55 to 780 uU/ml along the splenic vein.

Discussion

Insulinoma complicating pregnancy is a rare event. We found only five other cases mentioned in the English literature.[4-7] Two cases managed surgically during pregnancy have recently been reported,[6,7] but we hesitated to expose the fetus to radiation used in diagnostic studies designed to localize the tumor. In so doing, our conservative management of the patient allowed us to observe how the normal hormonal changes of pregnancy might alter the clinical course of an insulin-secreting tumor.

The fasting state in pregnancy has been termed one of "accelerated starvation." Felig and Lynch[17] have shown that maternal glucose levels during the second trimester of pregnancy are approximately 10 ng/dl lower after an overnight fast than in nonpregnant controls. The exact cause of this relative maternal fasting hypoglycemia is unknown,[18] but it is associated with a decline in fasting insulin levels which is greater in pregnant patients than

in nonpregnant controls.[17] The decline in insulin promotes glycogenolysis and gluconeogenesis in the maternal liver. However, the glucose produced must supply both fetal and maternal needs. Gluconeogenic amino acids, particularly alanine, are also being taken up by the fetus and are therefore unavailable for maternal gluconeogenesis. Symptomatic maternal fasting hypoglycemia may therefore occur,[19] especially in early pregnancy when caloric intake may be low because of nausea and before placentally-produced hormones which have an anti-insulin effect have risen significantly. Out patient first developed symptoms of fasting hypoglycemia toward the end of her first trimester of pregnancy, presumably because of the additive effects of an insulin-secreting tumor and the physiologic fasting hypoglycemia of early pregnancy.

One clue that our patient had more than the physiologic fasting of pregnancy was her lack of fasting ketonemia. Because there is a greater decline in fasting insulin levels in pregnant patients than in nonpregnant controls, there is therefore also a greater increase in acetoacetic and betahydroxybutyric acids in pregnant patients during fasting. Concentrations of these ketone bodies are two to three times greater in pregnant patients than nonpregnant patients after an overnight fast.[17] Early pregnancy is therefore characterized by relative fasting hypoglycemia and hyperketonemia. Serum acetone measurements were negative in our patient during fasting. This is presumably because the inappropriate secretion of insulin, despite hypoglycemia, prevented the production of ketone bodies.

During the second half of pregnancy the influence of placentally-derived hormones with a diabetogenic effect outweighs the hypoglycemic tendency seen earlier in pregnancy.[19] The primary hormone involved is human placental lactogen (HPL), which is produced by the placenta and has a structure and anti-insulin effect similar to growth hormone. HPL increases throughout pregnancy as the placental mass grows. Other hormones which may exert a significant anti-insulin effect during pregnancy include placentally-derived estrogen and progesterone,[18] and maternal cortisol.[19,20] Beta cell hyperplasia and a compensatory increase in plasma insulin normally occur during pregnancy to help maintain normal glucose homeostasis in the face of these anti-insulin effects. A glucose load or meal in pregnancy is therefore followed by a state of hyperglycemia despite hyperinsulinemia. We feel our patient's symptoms of hypoglycemia became less frequent and less severe as her pregnancy progressed because of these diabetogenic effects of normal pregnancy. Other authors[1,5,20] have also noted an amelioration of symptoms of insulin-secreting tumors during pregnancy.

In the immediate postpartum period there is a rapid decline in HPL, progesterone and estrogen produced by the placenta. The diabetogenic state of pregnancy thus resolves quickly after delivery. Our patient again developed episodes of severe hypoglycemia shortly after delivery, once the protective effect of the pregnant diabetogenic state was lost. Others have also describ this occurrence in patients with insulinomas in the po partum period.[1,5,20]

Our patient's unusual initial presentation of insulin-secreting tumor in early pregnancy as well as h amelioration of symptoms as pregnancy progressed, a the return of her symptoms postpartum can therefore explained on the basis of normal metabolic chang which occur during pregnancy. We feel that futu patients with insulinomas complicating pregnancy m also be able to be managed conservatively during pre nancy with successful localization and removal of t tumor postpartum.

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Gastroenterology

rimary Biliary Cirrhosis nd Autoimmune Disorders: Review

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roduction

Primary Biliary Cirrhosis (PBC) has been described as a ronic inflammatory disease of small bile ducts which ogresses to cirrhosis, portal hypertension and hepatic lure. Almost 90% of cases occur in women, usually tween the ages of 35 to 70, but the disease cuts across nationalities and socioeconomic classes.[1] The point evalence is approximately 50 per million.[2,3]

In recent years, asymptomatic patients have been agnosed early in the course of PBC and prognostic dicators have been identified.[2] Additionally, a large mber of autoimmune diseases have been associated th PBC.[4] We present a case which illustrates these ints.

Patient is a 67-year-old female, insulin dependent dia-tic, who was admitted for evaluation of pancytopenia. In March of 1978 the patient was noted to be mildly emic while taking indomethacin and methyldopa. aluation was consistant with iron deficiency anemia d patient responded to oral iron therapy. Methyldopa as discontinued due to a positive direct Coombs test. Hepatomegaly was noted on routine exam in June 82. Liver spleen and CT Scan confirmed hepatomegaly ut showed no evidence of focal lesions, fatty infiltration r splenomegaly. Alkaline phosphatase was 558 with ormal liver enzyme levels and hemoglobin was 13.1. In December of 1984 an interim CBC showed a hemo-obin of 10.0 with a leukocyte count of 2800 and arkedly decreased platelets. A repeat CBC four days later showed a hemoglobin of 9.0 with leukopenia and thrombocytopenia and the patient was admitted for evaluation.

On questioning, the patient admitted to easy fatigability for many years with a decrease in exercise tolerance to one block. Review of systems was positive for xerostomia, Raynaud's Phenomena, pedal edema and long-standing arthralgias of the left shoulder and right hand. The patient denied melena, hemoptysis, hematochezia or easy bruisability. Past medical history was remarkable for cholecystectomy at age 60 for cholelithiasis and a left nephrectomy at age 33 for tuberculosis. Family history showed a brother and son with adult onset diabetes. Medications on admission were insulin, synthroid and furosemide. The patient's only allergy was to aspirin which caused bronchospasm.

Physical exam revealed a thin, quite pale, elderly woman in no apparent distress; afebrile with pulse of 100, respirations of 16 and blood pressure of 160/80. Numerous telangiectasias were noted on palmar surfaces and lips, and palmar digits showed marked sclerodactaly. Patient was anicteric. Funduscopic exam showed arteriolar narrowing and arterio-venous nicking. Mucous membranes were dry. There was no thyromegaly. Abdominal exam disclosed a liver span of 12 cm, a smooth and non-tender liver and a palpable spleen tip. Stool was positive for occult blood.

Admission laboratories: CBC with hemoglobin of 8.0, WBC 2,600, normal differential, platelets 104,000, reticulocyte index 1.1, microcytic indices, coagulation studies within normal limits. Chemistry profile showed alkaline phosphatase 388, gamma glutamyl transferase 287, normal SGOT, SGPT and bilirubin. TSH was 2.3 (normal 2.5-6.5) Serum iron was 28, TIBC 363 and iron saturation was 8%. Serum folate and B-12 levels were normal, and a hemolytic workup was negative except for a positive direct Coombs.

Serum immunoelectrophoresis showed slightly elevated IgG and an IgM 2.5 times normal. Antinuclear antibody was negative and antimitochondrial antibody (AMA) was positive at 1:40. Westergreen sedimentation rate was 40.

Bone marrow examination was normocellular but with absent iron stores. Chest x-ray was normal; liver/spleen scan showed a marked splenomegaly and a focal defect noted in the gallbladder fossa. Abdominal sonography showed this defect to be a dilated portal vein. The liver was enlarged to sonography.

Upper endoscopy showed atrophic gastritis along with small esophageal varices and an atonic lower esophagus. No mucosal lesions noted. Colonoscopy showed friability of the entire colon which was also markedly flaccid. No telangiectasias or A-V malformations were noted.

Percutaneous liver biopsy showed a chronic inflammatory process. Fibrous tissue and bridging were noted within and between portal areas with lymphocytic cellular infiltration. Many of these portal areas had bile ducts which were regenerating or absent.

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Endoscopic retrograde cholangiopancreatography was performed to rule out extrahepatic obstruction. It showed a normal pancreatic and extrahepatic biliary tree with narrowing and pruning of the intrahepatic biliary tree. (See figure 1)



Figure 1

Hand radiographs were obtained to rule out acro-osteolysis. These showed scattered soft tissue calcifications without bone resorption. A Schirmer's test was positive for decreased tear production.

The patient received transfusions while in the hospital with packed red cells. She was again started on iron therapy, with intramuscular injections used so that stool color could be followed. Her anemia responded promptly with increasing hemoglobin and reticlocyte counts, although platelets and leukocytes remained low. She was discharged home in good condition with a diagnosis of Primary Biliary Cirrhosis, pancytopenia secondary to splenomegaly and iron deficiency anemia secondary to gastrointestinal blood loss.

Discussion

Until recently, the diagnosis of Primary Biliary Cirrhosis (PBC) with pruritis, jaundice, easy fatigability and xanthomatosis being the most classic signs and symptoms.[1] With the current use of multichannel serum scanners, the diagnosis is often made in asymptomatic patients, after finding an elevated serum alkaline phosphatase.[2] The diagnosis of PBC is confirmed by three additional findings; a positive anti-mitochondrial antibody (AMA) titer (usually greater than 1:20),[6] demon a tion of a normal extrahepatic and large intrahep ti biliary tree by transhepatic or retrograde cholan o graphy and consistent hepatic histopathology.[7]

The characteristic histopathology of PBC inclu e chronic inflammatory destruction of the small n medium sized bile ducts. Ultimately this process lead t disappearance of bile ducts, portal fibrosis and prog s sive cholestasis. Actual cirrhosis occurs very late in disease, so the name PBC is itself a misnomer.[8]

This patient met all four of the above criteria for d g nosing PBC. Also, most of the physical and labora r abnormalities seen with PBC are demonstrated in t case. These include an elevated alkaline phospha s and gamma glutamyl transferase, hepatomegaly, p hypertension, splenomegaly, pancytopenia, ede elevated IGM antibody, and a positive AMA test.[9]

In addition, this patient has a wide variety of clin findings associated with other autoimmune disea These findings include hypothyroidism, the Crest S drome variant of scleroderma, (which comprises c nosis, Raynaud's Phenomenon, esophageal [and in patient colonic] dysmotility, sclerodactyly and te giectasias), xerostomia kerato-conjunctivitis sicca, polyarthritis.[4]

Hypothyroidism is found in over 20% of patients v PBC. Although thyroid autoantibodies (antithyro bulin and antimicrosomal) were not available in case, approximately 50% of patients with PBC and hy thyroidism have them. More than 10% of euthyr patients with PBC also demonstrate these antibodie

This patient also had the "dry eyes — dry mouth" Sjogren's Syndrome.[11] This syndrome is seen in grea than 70% of patients with PBC.[4,12]

The Crest Syndrome variant of scleroderma, or scle derma itself is seen in 10% of PBC cases. Raynau Phenomenon alone is found in an additional 8% in c study.[4]

Polyarthritis is seen in approximately 20% of P cases. About half of these patients are diagnosed having rhuematoid arthritis, with the remainder be serologically negative.

The etiology of PBC is unknown. However, the la number of immunological abnormalities, coupled w the histopathology of the hepatic lesion suggests autoimmune mechanism.[1]

Granulomas, a hallmark of disturbed cell-mediat immunity, are frequently found in PBC. In additic when tested with tuberculin, many patients with PBC a shown to be anergic.[13] A defect in T suppressor ce leading to increased synthesis of immunoglobulins, well as direct bile duct injury by T lymphocytes m underlie the autoimmune manifestations of PBC.[8]

Specific antibodies to the bile ducts, as well as an genic substance in the bile capable of eliciting immune response have been discovered.

Striking abnormalities of serum complement and t presence of large circulating immune complexes lea

to activation of the complement system have also n implicated in the origin of PBC.[11]

rapy

o date, no treatment exists which arrests the histolog- progression of PBC or increases survival of treated ents when compared with non-treated controls. ause of the presumed autoimmune etiology, corti- eroids, azathioprione and penicillamine have all n tried, and none have proven beneficial. Currently, g-term trials are being conducted using chloram- il, medroxyprogesterone and cyclosporine A.[14]

espite lack of primary treatment, supportive therapy eases survival even in patients with advanced liver ase and jaundice. Pruritis can be well controlled with lestyramine. Complications arising from poor orption of fat soluble vitamins (such as bone resorp- and pathological fractures from vitamin D defi- ncy) can be anticipated and overcome by using oral parenteral supplementation. Advances in manage- nt of gastrointestinal bleeding and portal hyperten- over the past two decades have been extended to ients with PBC, with beneficial results.

gnosis

the past, PBC has been thought of as a relentlessly gressive disease with ultimately fatal results. Recent estigations have changed this impression. Due to new gnostic capabilities mentioned earlier, asymptomatic es of PBC are being uncovered. Two recent studies e indicated that the survival of asymptomatic patients h PBC does not differ significantly from that of aged tched controls.[2,3] The exact length of the asympto- tic period, and what percentage of asymptomatic ients eventually develop symptoms remains to be ermined.

urvival from the onset of symptoms in PBC is now nsidered to be greater than 11 years, nearly double t of a decade ago. The ten year survival is approxi- tely 50%. Poor prognostic indicators have been iden- ed recently by multivariate analysis. Three lependent predictors of poor prognosis are: vanced age, hepatomegaly and an increased serum rubin. In addition, the histological stage of the patic lesion correlates with survival. Fibrosis limited to rtal areas portends prolonged survival, whereas dging fibrosis and cirrhosis predict a worse ognosis.[2,3]

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Oncology/ Hematology

Chemotherapy of Squamous Cell Carcinoma of the Head and Neck

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The treatment of squamous cell head and neck cancer with chemotherapy, until recently, offered little hope of significantly prolonging the lives of patients, in spite of the fact that this carcinoma is in general more sensitive to the effects of chemotherapy than the majority of other solid tumors, e.g., gastrointestinal carcinomas, prostate cancer, and non-small cell bronchogenic carcinoma. In the past, the majority of patients who received systemic chemotherapy had already failed surgical and irradiation attempts at controlling their tumor, and were poorly nourished with far-advanced disease. Despite these negative factors, a sizeable proportion was observed to have some reduction in tumor size. Unfortunately, the early clinical studies were plagued by the lack of prospective randomized trials and the failure to analyze several important prognostic features.

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The factors affecting response to chemotherapy include: 1) stage of disease (massive T_4 primaries are less likely to respond than smaller lesions); 2) prior therapy with surgery or irradiation; 3) the patient's overall clinical status (usually stated in terms of the Karnofsky performance status) and; 4) the patient's nutritional status (which is adversely affected by the frequent occurrence of dysphagia due to local tumor growth, radiation-induced fibrosis, surgical defects, or orocutaneous fistulas).

For patients who develop local recurrences and/or distant metastases following surgery and irradiation, single-agent chemotherapy is appropriate. Although the responses are usually only partial in degree, the side effects observed are acceptable for this heavily treated and frequently poorly nourished group of patients. Until recently there was no evidence that combination chemotherapy was superior to single agent; however, at least one new combination, to be discussed later, tentatively appears to be more effective than any single agent yet studied.

A) Single-Agent Therapy

1. Methotrexate

No other agent has been as widely used as methotrexate. However, in spite of the many years of experience, questions still remain regarding the best route and schedule of administration. This agent may be administered intravenously, orally, intramuscularly, or intraarterially. Most of the compound is excreted unmetabolized in the urine, and thus the dose must be markedly reduced or the drug omitted in patients with renal impairment. The principal side effects include leukopenia, mucositis, and reversible abnormalities in liver enzymes, particularly SGOT.

When administered systemically, methotrexate is usually given intravenously, either weekly or biweekly. This schedule produces a partial response in about one third of patients and appears superior to monthly courses given for five consecutive days. The full dose of methotrexate on a once-weekly schedule is about 60 mg/m^2, but many oncologists feel that it is prudent to begin at a lower dose (e.g., 40 mg/m^2) and escalate in small increments until moderate toxicity develops. It is not unusual for patients who have been previously treated with radiation therapy to develop significant mucositis at a weekly dose below 60 mg/m^2.

In an attempt to improve the therapeutic index of methotrexate, investigators have employed much higher doses followed by the administration of citrovorum factor or leucovorin (leucovorin rescue). Methotrexate competitively inhibits the activity of the enzyme dihydrofolate reductase. Citrovorum factor is N_5N_{10} formyl tetrahydrofolate, the product of the inhibited reaction, and when administered it prevents most of the toxicity of high-dose methotrexate, hence, the use of the term "rescue."

Although high-dose methotrexate with leucovorin rescue has been used to treat patients with head and neck cancer since 1973, it has not been demonstrated to be superior to conventional-dose methotrexate in r domized studies.[1,2] Furthermore, the high-dose meth requires considerable expertise in administration te niques to prevent severe toxicity. Considering the a tumor responses thus far reported, the potential toxic cost, and nursing and medical time necessary for adm istration, high-dose methotrexate therapy should reserved for clinical research trials which include a co parison with different dose levels. The weekly IV sc dule with conventional doses of methotrexate has be amply demonstrated to be the standard against which other schedules and combinations must be compar

2. Bleomycin

This is the next most frequently used chemotherap tic agent in the treatment of head and neck cancer. T optimal route of administration, i.e., intravenous bo intramuscular injection, or continuous intravenous in sion, has not been well established, although the latte theoretically superior. Because of its lack of myelost pression, bleomycin has been an extremely attract agent to employ in combination regimens.

The response rates observed when bleomycin is giv as a single agent range from a low of 6% to a high of 4 A good estimate of the chance for response would be the range of 15% to 25%; however, this figure depressed because many patients who receive bl mycin have been previously treated with methotrexa In general, the responses to bleomycin are short, aver ing no more than three months and are rarely comple As a single agent, it is considered inferior methotrexate.

3. cis-Platinum

Although a relatively newly released agent, c Platinum has already assumed a major role in the ch motherapy of patients with advanced head and ne cancer. When administered as a single agent to patie who have been previously treated, the response rate approximately 30%. However, the response rate higher in previously untreated patients; thus, c Platinum is frequently included in preoperative a preirradiation chemotherapy regimens. A recen reported prospective randomized study has demo strated that methotrexate and cis-Platinum are equa effective in the treatment of recurrent head and ne squamous cell carcinoma although methotrexa appears to be better tolerated.[3]

In Table 1, the activity of single agents in the treatme of squamous cell head and neck cancer is summarize

B) Combination Chemotherapy

Combinations of anti-cancer drugs are considered, general, to be more effective than single agents becau of the additive effects of full or nearly fully doses of tw or more potent agents with nonoverlapping toxicities. addition, synergistic effects may be observed which c be significantly greater than the expected additi effects. Furthermore, combinations of drugs may pr vent or delay the appearance of a population of dru resistent tumor cells. However, unlike the experience acute leukemia, lymphomas, and some solid tumor

Table 1
Activity of Single Agents in Head and Neck Cancer*

ug	No. of Evaluable Cases	Response Rate (%)
ethotrexate (weekly or vice weekly)	100	50
ethotrexate (monthly ourses)	107	29
eomycin	298	18
-Platinum 30-120mg/m^2 q3-4 weeks)	65	35
ydroxyurea	18	39
yclophosphamide	77	36
nblastine	35	29
oxorubicin	34	23
Fluorouracil	118	15

*Adapted from Wittes RE: Chemotherapy of head and neck cancer. Otolaryngol. Clin. North Am. 13:515,1980.[33]

mbination chemotherapy has not been clearly demstrated to be superior to single-agent therapy when udied in a prospective randomized fashion (Table It appears that combination regimens which include -Platinum are more effective in patients who have not een previously treated with either surgery and/or radion therapy.[8-11] With response rates in excess of 70% d a considerable percentage being complete in tent, one can understand the enthusiasm for employg cis-Platinum combination regimens as initial therapy patients presenting with advanced (e.g., T_3 *and* T_4) mors. Response rates greater than 60% have also been cently reported in previously treated patients (Table . In these studies, the duration of partial remission is ch as to suggest little if any, impact on overall survival ith this degree of tumor shrinkage. However, in those ho achieve a complete response, some survival advange may well have been achieved.

The results reported for the cis-Platinum, 5-FU (conuous infusion) combination which include a 70% total sponse rate, 27% complete response rate, and a 11.3 onth duration of complete response are the most romising to date.[15] In addition, the toxicity reported for is combination is quite acceptable. Over the past two ears I have been using the cis-Platinum (100 mg/m^2), -FU (1 gram by continuous infusion for five days) regien with considerable success in patients with locally ecurrent or metastatic head and neck cancer. Usually ree or four courses have been administered and I have een impressed with the total and complete response te, although I have observed considerably more leuopenia and stomatitis than has been reported. Howver, before regimens such as this can be accepted into andard practice, the results must be confirmed in addional studies with a larger number of patients. In addion, a survival benefit over single-agent chemotherapy must be demonstrated in appropriate randomized trials.

C. Intraarterial Chemotherapy

Intraarterial chemotherapy in head and neck cancer was first introduced over 20 years ago; however, considerable controversy still exists as to its efficacy and superiority over systemic chemotherapy. With this method, chemotherapeutic agents singly or in combination are continuously infused into the arterial blood supply of the cancer with the aid of a bedside or portable infusion pump. The drugs are infused over several hours or days and this therapy is usually followed with a course of radiation therapy or surgery. With intraarterial administration, higher regional concentrations of cytotoxic agents are produced than can be safely achieved with the systemic route. The tumor is thus exposed to higher levels of the active drug while other areas such as the bone marrow and gastrointestinal tract are exposed to much lower levels resulting in decreased toxicity. In addition, extraction by the liver of active drugs and metabolites may aid in lowering systemic toxicity. The complications accompanying intraarterial chemotherapy include: thrombosis, infection, and drug leakage. Furthermore, distal embolization and systemic toxicity have also been reported.

Several problems are obvious in attempting to evaluate the efficacy in intraarterial chemotherapy. There is a striking lack of randomized trials in which the intraarterial and systemic route are compared in patients with equivalent stage and performance status. One is struck by the marked diversity of regimens and variation in duration of drug administration. Many of the studies have employed methotrexate, which may be a poor choice. This drug is highly diffusable, and with the intraarterial route only slightly higher tissue levels are achieved in the region supplied by the artery compared to systemic administration. In addition, this drug is strongly dependent on time of exposure for its cytotoxicity. In a 1977 literature review, a 53% cumulative response rate in 340 cases was found with continuous intraarterial methotrexate.[16] This response rate is not similar to that reported with systemic methotrexate. With the use of the recently introduced totally implantable infusion pump (Infusaid®) it is now possible to administer long-term intraarterial chemotherapy with a very low complication rate and high patient acceptance.[17,18] Despite its theoretical advantage, the use of intraarterial chemotherapy should be limited to clinical trials which attempt to demonstrate whether or not it is superior to systemic chemotherapy.

D) Induction Chemotherapy

The use of chemotherapy prior to surgery or irradiation in patients with advanced head and neck cancer is now being widely studied. This is appropriate for the following reasons:

1) The present results with the standard therapy of patients with stage III and IV head and neck cancer remain unsatisfactory.

2) Over 50% of patients with stage III and IV who fail local therapy will develop distant metastases and in

Table 2
Studies Comparing Combination and Single-Agent Chemotherapy in Recurrent Head and Neck Cancer*

Drugs	No. of Patients	Response Rate (%)	Median Survival (Mo.)	Reference
Methotrexate	81	26	5.0	1
vs.				
Methotrexate with leucovorin rescue	80	24	4.4	
vs.				
Methotrexate with leucovorin rescue + cyclophosphamide + cytarabine	76	18	3.2	
Methotrexate	68	16	6.7	4
vs.				
cis-Platinum + vinblastine + bleomycin	66	20	5.3	
Methotrexate	61	26	5.0	5
vs.				
Methotrexate + bleomycin + cis-Platinum	61	46	5.5	
Methotrexate	20	33	6	6
vs.				
cis-Platinum + vincristine + bleomycin	20	41	4.1	
cis-Platinum	41	18	6.3	7
vs.				
cis-Platinum + methotrexate	39	33	6.9	

*Modified and expanded from Hong WK and Bromer R: Chemotherapy in head and neck cancer. N. Eng. J. Med. 308:75,1983.[31]

approximately 30% distant metastatic disease is the only site of failure.

3) In stages III and IV one can clearly delineate the risk for recurrence without requiring complete surgical removal and postoperative staging.

4) Untreated patients respond more frequently and more completely to chemotherapy than previously treated patients probably because of superior drug delivery due to an intact vascular supply.

5) Untreated patients with good performance and nutritional status tolerate intensive chemotherapy far better than previously treated patients:

The principal goal of induction chemotherapy is to increase survival by improving the local control rate and eliminating possible distant micrometastases. Several regimens which usually contain cis-Platinum have already produced promising, although preliminary, results (Table 4). Response rates in excess of 70% are frequently observed with a substantial proportion of complete responses. In general, there have been no significant problems with post-chemotherapy surge and/or radiation therapy. Although these are all no randomized studies, initial analysis reveals that some these combinations do not produce any benefit in surv val.[23] However, Hong, et al. reported that survival data three years with his regimen of cis-Platinum and ble mycin[19] revealed higher probability of local control wit induction chemotherapy and a better overall survival patients showing a major response to chemotherap compared to nonresponders.[27]

It would be fair to say that the combination of ci Platinum (100 mg/m^2) and 5-FU by continuous infusio (1 gm/m^2 for 5 days x 3 courses) is now the most wide used induction treatment in this country.[26] I believe th this popularity is due to the high response rate (partic larly complete responses), ease of administratio acceptable toxicity, and the ability to administer t patients with significant lung disease who are poor car didates for bleomycin. A follow-up of the results of th combination has recently been published revealing

Table 3
Combinations with High Response Rates in Previously Treated Patients

Regimens*	No. of Patients	Response Rate (%)	Median Duration of Response (mo)	Reference
CP-BLM-MTX	19	74 (CR 16) (PR 58)	4 CR & PR	12
ADM-CTX-CP	25	64 (CR 0) (PR 64)	7	13
CP-MTX-BLM	46	63 (CR 17) (PR 46)	11 CR 5 PR	14
CP-5-FU	30	70 (CR 27) (PR 43)	11.3 CR 6.5 PR	15

* CP = cis-Platinum; BLM = bleomycin; MTX = Methotrexate; ADM = adriamycin (doxorubicin); CTX = cytoxan (cyclophosphamide); 5-FU = 5-Fluorouracil.

gnificantly superior complete response rate and survi- l advantage (18 months median survival versus 13 onths) compared to a two-course 96-hour 5-FU infu- on plus cis-Platinum regimen.[28] In addition, respond- s to the initial chemotherapy had a significantly better rvival compared to nonresponders regardless of sub- quent surgery and/or radiation therapy. This same oup of investigators has also reported that patients ho fail to respond to induction chemotherapy with a s-Platinum combination will also fail to respond to bsequent radiation therapy.[29] Thus, it appears that tients with head and neck cancer sensitive to induc- on chemotherapy share features that also confirm radi- ion sensitivity.

For the past two years we have been using a modifica- on of the cis-Platinum plus 5-day infusion 5-FU combi- ation at the Tucson Veterans Administration Medical enter and the University of Arizona Cancer Center. We ave increased the dose of 5-FU by 50 percent (1.5 gram/ ^{2}/day) and added allopurinol (900 mg/day) to modify e toxicity of this higher dose as originally demon- rated by Fox, et al.[30] All of the first 18 patients who ompleted three courses responded and 50 percent of e responses were complete.[31] Fourteen of the first 16 tients who completed all planned therapy achieved a R and only four have relapsed. The toxicity was accep- ble and probably no greater than that which accom- anies the standard (1 gm/m^2/day) dose of 5-FU. We ave been encouraged with the preliminary results of is experimental study, particularly with the 50 percent R rate in patients with advanced nodal (N_3) disease hich is higher than reported with the conventional ose of 5-FU.[28]

To accurately evaluate the value of induction chemotherapy randomized studies which include comparable patients treated with surgery and/or radiation without induction chemotherapy will be required. Unfortunately, the results of such a study sponsored by the National Cancer Institute which included 462 patients from many institutions yielded disappointing results.[32] In this study patients were randomized to receive either standard surgery and post-op irradiation, induction chemotherapy consisting of one course of cis-Platinum and bleomycin followed by standard therapy, or induction chemotherapy and standard therapy followed by maintenance chemotherapy. With a median follow-up of 37 months, adjuvant chemotherapy did not improve survival. The major flaw in this study is that only one course of induction chemotherapy was administered resulting in a complete response rate of only 3% and a partial response rate of only 34%. It is hoped that in the future randomized studies will employ no less than three courses of more active combinations of drugs (e.g., cis-Platinum plus 5-FU). Such a trial is presently being conducted in advanced laryngeal carcinoma by a Veterans Administration Cooperative Study Group in which the Tucson Veterans Administration is participating.

Acknowledgement

A portion of this article will appear in the next Self-Instructional Package on Chemotherapy and Head and Neck Oncology of the American Academy of Otolaryngology — Head and Neck Surgery Foundation, Inc.

Table 4
Induction Chemotherapy in Head and Neck Cancer

Regimen*	No. of Courses	No. of Evaluable Patients	Response Rate (%) CR	PR	Reference
CP + BLM	2	48	21	50	19
CP + BLM + VINC	2	77	28.6	50.6	20
CP + MTX + VINC + BLM	1-3	58	26	34	21
CP + BLM + VINC	2	47 (2 pts. with 2 primaries)	22.2	66.6	22
CP + BLM + MTX + MITO	2	22	9.1	68.2	23
BLM + VINC + MTX	2	91 (pts. started although lesions still decreasing)	6	58	24
CP + 5-FU (4d)	2	26	19.2	69.3	25
CP + 5-FU (5d)	3	61	54	39	26

* CP = cis-Platinum; BLM = bleomycin; VINC = vincristine; MTX = methotrexate; MITO = mitomycin; 5-FU = 5-Fluorouracil; HC = hydrocortisone

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Surgery

ntramuscular Myxoma: eport of Two Cases and eview of the Literature

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Intramuscular myxomas are rare benign soft tissue mors of the large muscles. The true myxoma is never alignant and reports of a "myxosarcoma" are probably isdiagnosed liposarcomas. The characteristic histo-gic and gross features of this tumor are discussed. The treatment and prognosis of myxomas are reviewed with illustration of two cases. The pertinent literature is reviewed.

Key Words: Soft Tissue Tumors, Intramuscular Myxoma

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Introduction

Myxomas of the soft tissue are rare, benign tumors, usually within the large muscles of the thigh, shoulder, buttocks, and upper arm. Although definitive articles have been written by Ireland,[2] Enzinger,[1] Wirth,[3] and Dutz and Stout,[4] much of the literature consists of case reports and there has been confusion with a number of sarcomas, including liposarcoma, rhabdomyosarcoma, malignant fibrous histiocytoma, and chondrosarcoma, all of which may show prominent myxoid change. The true myxoma is a benign, slow growing, infiltrating tumor consisting of a mucin matrix of hyaluronidase-sensitive mucopolysaccharides with a loose arrangement of stellate-to-spindle shaped cells and a delicate network of reticular fibers. The tumor must not contain identifiable differentiated cells of mesenchymal origin such as lipoblasts, or rhabdomyoblasts, and is poorly cellular with sparse vascularity.

There is controversy concerning the cell of origin of these tumors. While Stout felt they arose from undifferentiated mesenchyme, Enzinger,[1] has proposed that a more likely etiology, in view of the benign behavior, is fibroblasts producing excess mucopolysaccharide. Myxomas must also be distinguished from a numer of benign lesions associated with abundant myxoid material, including "ganglion" tumors of tendon sheaths, cutaneous myxoid cyst, and cutaneous mucinosis, myxedema, myxoma of jaw bones, and some benign neural tumors.

In the past, some authors reported the existence of a myxosarcoma, i.e., a malignant myxoma, but these are now classified by most experts as other types of sarcoma with prominent myxoid change.

Though myxomas are never believed to be malignant, there are reports of multiple myxomas. Interestingly, these were all associated with fibrous dysplasia, usually polyostotic of the adjacent bony structures and the tumors were always confined to this locality. Wirth and associates,[3] who reported eleven of these cases theorize that there is a common metabolic error of both the fibrous dysplastic bone and the adjacent tissue of origin of the myxomas. Five of these patients had features of Albright's Syndrome.

Case One

A 66-year-old male, in generally good health was noted by his private physician during a routine physical, to have a large firm mass in his right groin area. The patient denied having noted the mass or any similar masses in the past. He gave a history of chills and night sweats over the past three weeks along with malaise and easy bruising for the last year. He claimed to have episodic joint pain in both knees and was being treated for coronary atherosclerotic heart disease.

Physical examination revealed prominent inguinal and femoral nodes and a large, firm non-tender 10 x 7 cm

mass in the right femoral area. Except for hepatomegaly, the rest of the exam was negative.

An AMA24 laboratory profile was within normal limits. Peripheral blood contained 8,600 WBCs with a modest increase in lymphocytes, 228,000 platelets and hematocrit of 40.8. The lymphadenopathy was thought to represent either an infectious process or non-Hodgkins lymphoma.

The tumor was excised without complications. A preoperative biopsy tentatively identified the tumor as a myxoma. The tumor was partially infiltrated into the adductor brevis muscle but, elsewhere, was encapsulated and of a smooth firm consistency with several accessory tumor nodules attached. There was a modest vascular supply to the tumor. The patient recovered from surgery uneventfully and has been in good health without further evidence of tumor.

On gross examination the tumor was found to consist of a homogenous grey-brown tissue which exuded a large to moderate amount of clear, slimey, mucinous material. Microscopically the tumor consisted of characteristic stellate cells distributed throughout abundant macicarmine positive stroma. Sudan III stain of the fresh specimen was negative. (Figures 1 and 2)



Figure 1
Myxomatous tumor with pseudo capsule

Case 2

A 51-year-old man with multiple medical problems, including rheumatoid arthritis of the hands and knees, mucous colitis, diverticulitis, senile type parkinsonism and prostatism, was seen two months after a golf-ball size lesion removed from his left posterior cervical region with complaint that the growth was coming back. He had first noticed a painless swelling 16 months before the operation. Microscopic slides from the referring physician were diagnosed as myxoma which appeared to have inadequate margins of resection. It was recommended that the patient have re-operation with wider margins of resection taken to either side and below, which he did the following week. The finding was residual myxoma. Sixteen years after operation, the patient has had no evidence of recurrent or new tumor.



Figure 2
Stellate and spindle cells in myxomatous background

Discussion

Etiology

The World Health Organization International Hist logic Classification of Soft Tissue Tumors catalogu myxomas with tumors of unknown histogenesis.[11] Se eral theories of the cell of origin have been propose though none have been substantiated. Stout[12] has hyp thesized that the myxoma originates from primitive me enchymal tissue. Enzinger[1] has pointed out that primitive, multi-potential cell type might be expected show a more aggressive growth pattern than the my oma and also show a higher degree of cellular variabil and differentiation in such a long-growing tumor. I argued that, due to the similarity of the early gang formation, myxoma cells may actually be altered fibro lasts, which produce an excess of mucopolysacchario and are incapable of assembling inactive collagen. Th he claims, would explain the occasional transitior forms between myxomas and nodular fasciitis.

Awareness, within the last decade, of the bizarre ass ciation of multiple myxomas and fibrous dysplasias h come to light. Wirth, et al.[3] in the most definitive pap to date, has described 11 cases of fibrous dysplasia, us ally polyostotic, associated with multiple myxomas.

In all cases there was a local association of myxomas dysplastic bone, but never direct involvement of t bone by the myxoma. Five of these patients had oth signs of Albright's syndrome and in these patients, t cafe-au-lait spots were always noted to be on the sar side of the body as the myxomas. Only one of the patients' had a solitary myxoma. Ireland, et al.[2] added the literature three new cases of multiple myxomas ass ciated with fibrous dysplasis of bone. One of these h features of Albright's syndrome. They were in agre ment with the original theory of Henscher[13] that the may be a basic metabolic error shared by the bone a associated soft tissue which predisposed to the observ pathology. Mazabrand, et al.[14] reported a case of oste sarcoma in the right tibia of a patient with Albrigh syndrome and multiple myxomas.

:hology

Myxomas are generally spherical, possess a glistening, ucoid cut surface and may be gray or white. There may small cystic spaces containing fluid. In the absence of evious biopsy, there should be no necrosis or hemorage. The histologic pattern is uniform throughout and nsists of widely spaced, bland stellate shaped cells, undant myxoid material and a loose reticulin meshrk. Vessels are sparse, a finding that is also evident diographically. Though vacuoles may be present at the ll periphery, fresh specimens will not take up Sudan III other fat stains as will lipoblasts vacuoles seen in osarcomas. The matrix which resembles Wharton's ly of the umbilical cord, contains acid mucopolysacaride sensitive to hyaluronidase.

Sponsel, et al,[5] in 1952, reported 16 cases which they belled as myxoma, according to the criteria of Stout,[6] d nine were labeled as "myxosarcoma." They differtiated these histologically by a "kinky" shorter type of icular fibers and a richer, well-defined vascularity in e "myxosarcoma." Although these "myxosarcoma" re probably mislabelled liposarcomas, the histologic teria they outlined is useful in differentiating myxoas from other tumors. Glazunov and Puckov[7] reported ding an unusual cellular zonal structure and nuclear d cytoplasmic inclusion bodies, which resembled se seen in Shape's papilloma and Sanarelli's myxomasis. These findings have not been substantiated in the nerican literature. Most important in differential diagsis are a number of sarcomas, including myxoid lipocoma, botryoid-type rhabdomyosarcoma, myxoid alignant fibrous histiocytoma, and myxoid chondrocoma. All these lesions may show prominent myxoid eas. In general, distinction depends on their greater llularity, cellular pleomorphism, and vascularity, as ll as obtaining a large enough sample to demonstrate re characteristic sarcomatous patterns. Localized yxedema usually around the ankles of patients treated r hyperthyroidism, can appear virtually identical to the yxoma. While myxomas may occasionally contain all cysts, they can usually be distinguished from the nglion cyst of tendon sheaths, on the basis of location d presence of multiple thick walled cysts in the latter. hat little morbidity is associated with myxomas is due extrinsic compression of adjacent structures. Generly slow growing, they can undergo a rapid-growth ther early or late in their course.[2]

Data from several studies does not reveal a sex preference. There is, however, a definite age distribution ghly biased toward the sixth to seventh decades, with creasing rarity in the early decades of life. Dutz[4] has ported two cases of cogential myxoma.

The majority of myxomas reported in a recent study of patients at the Mayo Clinic[2] involved the intramuscu- tissues of the thigh and shoulder. The next most mmon tissues were subcutaneous tissue, fascial anes, and neurovascular sheaths. Very rarely, the periteum of adjacent bone is involved.[1-7] Of myxomas arising in bone, the site is the jaw, almost exclusively.[8] No familial pattern has been recognized.

Treatment and Prognosis

The prognosis is excellent. Enzinger, in study of thirty-three intramuscular myxomas found no evidence of recurrence on follow-up of two to greater-than-five years, even though 29 of these cases were treated only by simple surgical resection. All the recent literature supports these excellent surgical results. Ireland, et al.[2] found two cases out of 58 soft tissue myxomas which recurred and were then treated successfully by re-operation. There have been isolated reports of multiple recurrences,[8] which may reflect, more the difficulty of surgical extraction rather than intrinsic behavior of the tumor itself. Pseudopodia of the tumor can infiltrate contigous structures and be missed by the unwary surgeon. Conservative surgical resection is the treatment of choice. Fresh tissue biopsy should be done on suspicious masses to differentiate liposarcoma. These tumors, due to their infiltrative nature, require a wider resection than fibromas, though, depending on the site, a conservative approach can be taken with subsequent careful follow-up clinically.[8] By all reports, true myxomas are radioinsensitive.

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Special Article

Medicine:
The Death of a Profession

Leonard Peikoff

Leonard Peikoff is a professor of philosophy who has taught at Hunter College, Long Island University, and New York University. Dr. Peikoff, Ayn Rand's long-time associate and literary executor, is the author of *The Ominous Parallels: The End of Freedom in America* and the editor of *The Early Ayn Rand*. He lectures throughout the country on Ayn Rand's philosophy of Objectivism. Reprinted in *Arizona Medicine* with the permission of the copyright holder, Dr. Leonard Peikoff. Copies of the complete lecture are available for $2.50 each from *The Objectivist Forum*, P. O. Box 5311, FDR Station, New York, New York 10150.

[*This lecture was first delivered on April 14, 1985 at the Ford Hall Forum in Boston.*]

One day, when you are out of town on a business trip, you wake up with a cough, muscle aches, chills, and a high fever. You do not know what it is, you start to panic, but you do know one action to take: you call a doctor. He conducts a physical exam, takes a history, administers lab tests, narrows down the possibilities. Within hours, he reaches a diagnosis of pneumonia and prescribes a course of treatment, including antibiotics. Soon you begin to respond, you relax, the crisis is over. Or: you are getting out of your car, you fall and break your leg. It is a disaster, but you remain calm, because you can utter one sentence to your wife: "Call the doctor." He proceeds to examine your leg for nerve and blood vessel injury, he takes X-rays, reduces the fracture, puts on a cast; the disaster has faded into a mere inconvenience, and you resume your normal life. Or: your child comes home from school with a stabbing pain in the abdomen. There is only one hope: you call the doctor. He performs an appendectomy—the child recovers.

We take all this completely for granted, as though modern drugs, modern hospitals, and modern doctors were facts of nature, which always had been there and which always will be there. Many people today take for granted not only the simpler kinds of medical intervention, such as the ones I just mentioned, but even the wonder cures and wonder treatments that the medical profession has painstakingly devised—like the latest radiation therapy for breast cancer, or the intricate delicacy of modern brain surgery, or such a breathtaking achievement as the artificial-heart implants performed by Dr. William C. DeVries. Most of us expect that doctors will go on accomplishing such feats rountine steadily removing pain and thus enhancing the quality our life, while adding ever more years to its quantit

America's medical system is the envy of the globe. T rich from every other country, when they get sick, not head for Moscow or Stockholm or even London a more; they come here. And in some way, despite t many public complaints against the medical professi we all know this fact; we know how good our doct are, and how much we depend on their knowled skill, and dedication. Suppose you had to go on a s month ocean voyage, with no stops in port, with am provisions and sailors, but with only one other prof sion represented on board in addition, and you cou decide which it would be. Would you ask for your law to come along? your accountant? your Congressma Would you dare even to ask for your favorite movie st Or would you say: "Bring a doctor. What if somethi happens?" The terror of having no answer to this qu tion is precisely what the medical profession saves from.

I am not saying that all doctors are perfect—they a not; or that they all have a good bedside manner—th do not; or that the profession is free from flaws—li every other group today, the medical profession has share of errors, deficiencies, weaknesses. But these a not my subject tonight, and they do not alter two fac that our doctors, whatever their failings, do give us t highest caliber health-care in world history—and th they live a grueling existence in order to do so.

I come from a medical family, and I can tell you wha doctor's life is like. Most of them study non-stop f years in medical school and then work non-stop for t rest of their life. My own father, who was a surgeo operated daily from 7 a.m. until noon and then ma hospital rounds; from 2 to 6 p.m., he held office hou When he came home for dinner, if he did, the pho never stopped ringing—it was nurses asking instru tions, or doctors discussing emergency cases, or patie presenting symptoms. When he got the chance, usual late at night or on Sundays after rounds, he would rea medical journals (or write for them), to keep abreast the latest research. My father was not an exception. Th is how most doctors, in any branch of medicine, live, ar how they work.

The profession imposes not only killing hours, but als continuous tension: one way or another, doctors deal a the time with *crisis*—with accidents, disease, traum disaster, the imminence of death. Even when an ailme is not a mortal threat, the patient often fears that it is, an he must be reassured, nursed through the terror, eve counseled psychologically by the physician. The pre sure on the doctor never lets up. If he wants to escap even for the space of a single dinner on the town, char ces are that he cannot: he will probably get beeped an have to rush to the emergency room just as the entree being served.

The doctor not only has to live and work in such

essure cooker, he has to *think* all the time—clearly, jectively, scientifically. Medicine is a field that quires a vast fund of specialized theoretical knowlge; to apply it properly to particular cases, the doctor ust continuously make delicate, excruciatingly comex decisions. Medical treatment is not usually a cutd-dried affair, with a simple, self-evident course of tion; it requires the balancing of countless variables; it quires clinical judgment. And the doctor must not ly exercise such judgment—he must do it fast; typilly, he has to act *now*. He cannot petition the court or client or any employer for a postponement. He faces ily, hourly, the merciless timetable of nature itself.

What I personally admire most about doctors is the t that they live this kind of life not out of any desire for ruistic self-sacrifice, but *selfishly*—which is the only ng that enables them to survive it. They love the field, ost of them; they find the work a fascinating challenge applied science. They are proud men, most of them, th an earned pride in their ability to observe, evaluate, , cure. And thank God, they expect to be rewarded aterially for their skill; they want to make a good living, hich is the least men can offer them in payment for eir achievements. The make that living, as a rule, by nding on their own, not as cogs in some faceless, vernment-subsidized enterprise, but as entrepreurs in private practice. In this regard, the doctors are hong the last of the capitalist breed left in this country. ey are among the last of the individualists that once opulated this great nation.

Ladies and gentlemen, if I knew nothing about today's orld but the nature of our politicians and the philophy represented by the medical profession, I would edict an inevitable clash, a catastrophic clash, between e two: between the government and the doctors. On rely theoretical grounds, I would predict the destrucn of the doctors by the government, which in every ld now protects and rewards the exact opposite of ought, effort, and achievement. This evening, I want tell you that this catastrophe is actually taking place, d in what manner, and how it will affect your future as ell.

To understand what is happening in medicine today, e must go back to the beginning, which in this case is 65, the year when Medicare and Medicaid were finally shed through Congress by Lyndon Johnson. Medire, as you may know, covers most of the medical penses of those over 65, whatever their income. Mediid is a supplemental program for the poor of any age. Those of us who opposed the Johnson plan argued at e time that government intervention in medicine is moral in principle and would be disastrous in prace. No man, we claimed, has a *right* to medical care; if e cannot pay for what he needs, then he must depend voluntary charity. Government financing of medical penses, we argued, even if it is for only a fraction of the opulation, necessarily means eventual enslavement of e doctors and, as a result, a profound deterioration in e quality of medical care for everyone, including the aged and the poor.

The proponents of Medicare were unmoved by any arguments. Altruistic service to the needy, they said, is man's duty. It is degrading, they said, for the elderly to be dependent on private charity; a "means test" is incompatible with human dignity. Besides, they added, the government would not dream of asking for any control over the doctors or over their methods of patient care. All we want the state to do, they said, is pay the bills.

Well, it is now 1985. Let us look at what actually happened.

The first result of the new program should have been self-evident. Suppose we apply the same principle to nutrition. Suppose President Johnson had said: "It is unfair to have to pay your own food and restaurant bills. Men have a right to eat. Washington, therefore, will pick up the tab." Can you project the results? Can you imagine the eating binges, the sudden mania for dining out, the soaring demand for baked peacock tongues and other gourmet delicacies? Do you see Lutece and the "21" Club becoming nationally franchised and starting to outdraw McDonald's? Why not? The eaters do not have to pay for it. And the food industry, including its most sincere members, is ecstatic; now that the money is pouring from Washington into the grocery chains and the restaurants, they can give every customer the kind of luxury treatment once reserved for millionaires. Everybody is happy—except that expenditure on food becomes so great a percentage of our GNP, and the drain on the Federal treasury becomes so ominous, that every other industry starts to protest, and soon even the bureaucrats begin to panic.

This is what happened to medical spending in the United States. The patients covered by the new programs no longer had to pay much attention to cost—that was the whole purpose of the programs. And the healthcare professionals in the beginning were generally delighted. Now, many of them felt, the sky is the limit, and they proceeded to build hospitals, purchase equipment, and administer tests accordingly. Medical expenditures in the U.S. were 4.3% of GNP in 1952; today they are about 11%, and still rising. Medicare expenditures doubled from 1974 to 1979, doubled again in 1984, and are expected to double again by 1991, at which time, according to most current estimates, the Medicare program will be bankrupt. Something, the government recognized, has to be done; we are going broke because of the insatiable demand for medical care.

The government did not decide to cancel its program and return to a free market in medicine—when are disastrous government programs ever canceled? Instead, it did what governments always do: it decided to keep the programs but impose rigid controls on them. How? The first step was a campaign to force hospitals not to spend much on Medicare patients, no matter what the effects on the health of those patients.

We will no longer, officials said, pay hospitals a fee for each service they render a Medicare patient. That method of payment, they said, simply encourages

spending. Instead, we will pay according to a new principle, DRGs. Remember those letters: DRG. They represent the first major assault by the government against the doctors and their patients. It is not yet the strangulation of the medical profession. But it *is* the official dropping of the noose around their necks.

DRG means "diagnosis-related group." According to this approach, the government has divided all ailments into 468 possible diagnoses, and has set in advance a fixed, arbitrary fee for each; it will pay a hospital only what it claims is the *average cost* of the ailment. For example, for a Medicare patient in the Western Mountain region who is admitted to a hospital with a heart attack and finally recovers enough to go home, the government now pays the hospital exactly $5094—no more and no less. And it pays this amount *no matter what the hospital actually does for the patient*, no matter how long his stay or how short, no matter how many services he requires or how few. If the patient costs the hospital more than the government payment, the hospital loses money on him. If he costs less, the hospital makes a profit.

Let us pursue the heart-attack example for a moment. Here is a fictional story now in process of becoming reality around the country. A man suffering from severe chest pains is taken by ambulance to the hospital. He receives certain standard tests, including a cardiogram, then is moved to the Intensive Care Unit, where his vital signs are continuously monitored. His doctor thinks that in this instance a further test, an angiogram, is urgently indicated; this test would outline the arteries of the heart and indicate if one is about to close off, an event that could be fatal. The hospital administrator protests: "An angiogram is expensive. It costs up to $1000, about 20% of our total fee for this man, and who knows what else he's still going to cost us? You can't prove this test is necessary. Let's wait and see." The test is not given. Maybe the patient lives, maybe not. Several days later, the administrator comes to the doctor: "You've got to get this man out of the ICU. It's costing almost $800 per day, and he's been there now for five days. What with everything else, we've already spent almost the whole payment we get for him." The doctor thinks that the patient still desperately needs the specialized nursing available only in the ICU. The administrator overrules him. "There's an area of judgment here," he says. We'll just have to take a bit of a chance on this case."

Or: the doctor decides that the patient is an excellent candidate for remedial heart surgery; a by-pass operation, he thinks, would probably prolong the man's life considerably while relieving him of pain. But the man, after all, is elderly and the operation would involve a lengthy hospital stay. "Let's try a more conservative treatment first," the administrator says, "let's give him some medication and wait and see." Again, maybe the patient lives, maybe not.

Let us say that he lives and goes back to the regular ward in the hospital. He still feels very weak, and the doctor does not think he is anywhere near ready to be discharged. But the $5094 has long since been spent, an the administrator starts to wonder aloud: "Maybe th man could manage somehow at home. In any event, he eating us alive—get him out of here." Maybe the patie will survive at home, maybe not.

Do you see the thrust of the system? If the hospit does relatively little for the patient, it makes money; if provides an extensive range of services, it loses heavil The best case from its viewpoint is for the patient to d right after admission: the hospital still gets the full fe The worst case is for him to survive with complicatio and require a lengthy stay—which is why some hospita are now refusing to admit patients they fear will ling on too long.

I do not mean to suggest that our hospitals are no merely shrugging and callously withholding urgent needed treatment from Medicare patients. Today's ho pitals and doctors do have integrity; most are continuir to do their very best for the patient. The point is that th have to do it now within the DRG constraints. The issue not simply: treat the patient or let him die. The issue i treat him how? At what cost? With what range of ser ces, specialists, and equipment? With what degree safety or of risk? This is the area where there is enormo room for alternatives in the quality of medical treatmer And this is the area that is now in the process of bei slashed across the board for Medicare patients, the ve people singled out by the liberals in the 1960's as nee ing better medical care.

To revert to our nutrition analogy: it is as though tl government socialized eating out, then paid restaurar in advance only what it computed as the average cost p meal. There would then be a powerful incentive f restaurants to cut corners in every imaginable way— serve only the cheapest foods in the smallest amounts the cheesiest settings. What do you think would happ to the nation's eaters—*and its chefs*—under such a s up? How long could the chefs preserve their dedicati to preparing haute cuisine, when the restaurant-owne in self-preservation, were forced to fight them at eve step and to demand junk food instead? The same answ applies to our doctors today.

There is now a new and deadly pressure on the do tors, which continuously threatens the independen and integrity of their medical judgment: the pressure cave in to utterly arbitrary, DRG economics, wh blanking out the effects on the patient. In some plac hospitals are now offering special financial incentives the physician who averages out at relatively low cost. F example, the hospital might subsidize such a docto office rent or purchase new equipment for him. On t other hand, a doctor who insists on quality care for l Medicare patients and thereby drives up costs is likely incur the hospital's displeasure. In the extreme case, t doctor risks being denied staff privileges, which mea cutting off his major source of livelihood. Thanks DRGs, a new conflict is in the offing, just starting to ta shape: the patient vs. the hospital. Or, to put it anoth way, the conflict is: doctors vs. hospitals—doctors figh

a rear-guard action to maintain standards against spitals that are forced by the government to become t-cutting ogres. How would you like to practice a fession in which half your mind is devoted to healing patient, while the other half is trying to appease a spital administrator who himself is trying to appease me official in Washington?

And remember that Medicare patients are not a small up. On the contrary, because of their age, they con-ute a significant part of most doctors' practice. Medi-e patients now make up about 50% of all hospital missions in the U.S.

The defenders of DRGs answer all criticisms by saying t costs simply must be cut. Even under complete pitalism, they say, doctors could not give unlimited atment to every patient. This is true, but it ignores two cial facts. 1) It is *because* of government programs t medical prices have soared so high and are now out reach of masses of patients. This was not true in the ys of private medicine. The average American a gen-ation ago could afford quality, in medicine as in every her area of life, without courting bankruptcy. 2) Even if patient could not afford it, at least, in the pre-welfare-te era, he was told the truth: as a rule, he was told out the treatment options available, and it was up to m, in consultation with his doctor, to weigh the various ssibilities and decide how to cut costs. But under the esent system, the hospital not only has to cut services astically—it is to its interest to conceal this fact from e patient. If he or his family ever learns that the angio-am he is not going to have, or the heart surgery, would ake all the difference to the outcome of his case, he uld immediately protest violently, insist on the ser-ce, even threaten to launch a malpractice suit. The stem is rigged to squeezing every drop of quality out of edical care, so long as the patient does not understand hat is happening. The patient does not know medi-ne; he relies on the doctor's integrity to tell him what rvices are available and necessary in his case—yet, creasingly, the hospitals must try to batter down that tegrity. They must try to make the doctor keep silent d not tell the patient the full truth.

Under the new system, the patient is no longer a free an to be accorded dignity and respect, but a puppet on e dole, to be manipulated accordingly—while the ctor is transformed from a sovereign professional into mere appendage and accessory, a helpless tool in a vernment-orchestrated campaign of shoddy quality nd deception.

The government's takeover of medical practice is not nfined to public patients; it is starting to extend now to the private sector as well. This brings me to the MOs, which are now mushrooming all over the untry.

HMO means "health-maintenance organization." It uld also have been called BBM, for "bargain-sement medicine." In this set-up, a group of doctors, rhaps with their own hospital, offers prepaid, all-clusive medical care at a cheap rate. For a fixed pay-ment in advance, a payment substantially less than a regular doctor would charge, the patient is guaranteed virtually complete coverage of his medical costs, no matter what they are. The principle here is exactly the same as that of the DRG system: if the patient's costs exceed his payment, the HMO loses money on him; if not, it makes a profit.

Although HMOs are privately owned, the spread of these organizations is wholly caused by government. There were very few HMOs in the days of private medicine. As part of the government's campaign to lower the cost of medical care, however, Washington has recently thrown its immense weight behind HMOs, even going so far as to advertise nationally on their behalf and to give them direct financial subsidies.

How do HMOs achieve their low rates? In essence, by the DRG method—the method of curtailing services. In this case, however, the cuts in quality are even more sweeping, inasmuch as the HMO embraces every aspect of medical care, and not merely hospital costs. For example, HMO doctors do not generally have personal patients, nor does the patient generally have a choice of doctors or even necessarily see the same one twice—that is too expensive. The patient sees whoever is on duty when he shows up; the doctor gives up the luxury of following a case from beginning to end. Nor does the doctor have much time to spend with a given patient—HMOs are generally understaffed to save money; typically, there are long waiting lines of patients. Further, the doctor must obtain prior authorization of any significant expenditure from a highly cost-conscious administrator. The doctor may detect a possible abdominal tumor and request a CAT scan—in effect, an exquisitely detailed, 3-D X-ray. But if the administrator says to him: "It costs a lot. I don't think it's necessary," the doctor is helpless. Or he may find that the patient has an aneurysm, a weakening of an artery that is like a time bomb waiting to go off, and he may want to operate to remove it. But the administrator can reply: "These cases often go years without rupturing. Let's wait a while." Like the doctor under DRGs, the HMO doctor ultimately has to obey: he either keeps his costs within the dictated parameters, or he is out of work.

What kinds of doctors are willing or eager to practice medicine under these conditions? In large part, they represent a new breed, new at least in quantity. There is a generation of utterly unambitious young doctors growing up today, especially conspicuous in the HMOs, doctors who are the exact opposite of the old-fashioned physicians in private practice—doctors who want to escape the responsibility of independent thought and judgment, and who are prepared to abandon the prospect of a large income or a private practice in order to achieve this end. These doctors do not mind the forfeit of their professional autonomy to the HMO administrator. They do not object to practicing routine, cut-rate medicine with faceless patients on an assembly-line basis—so long as they themselves can escape blame for any bad results and cover their own tracks. These are the

new bureaucratic doctors, the MDs with the mentality, and the fundamental indifference to their job, of the typical post-office clerk.

I hasten to add that there *are* better doctors in the HMOs (and that some HMOs are better than others). As a rule, however, the better doctors in these organizations are mercilessly exploited. Being conscientious, the better men put in longer hours than necessary, trying to make up for the chronic understaffing. They do not give in meekly to arbitrary decrees on cost, but fight the administrator when they feel their own judgment is right. Increasingly, their professional life becomes a series of such fights, which makes them the heavies, hard to get along with and guilty of costing the HMO money—while their lesser colleagues capitulate to the system, do as they are told, and take things easy. Time after time, the better men step in to bail out such colleagues, struggling to correct their errors, clean up their messes, rescue their patients. At a certain point, however, the better doctors start to get fed up.

An HMO doctor in California, a qualified internist and a highly conscientious woman whom I know personally, told me the following story. "I was looking through a pile of cardiograms one day," she said, "and I saw one that was clearly abnormal. I knew that the man should be taken by ambulance to the emergency room for retesting and possible hospitalization. Then I thought: it's late Friday afternoon, and it's going to take an hour and a half, and I'm not being paid for the extra work, and who will know if I wait until Monday? I was tempted for a minute to drop the whole thing and go home, but then the remnants of my conscience made me get up wearily and telephone the patient. This sort of thing," she concluded, "happens all the time and not just to me, and often the doctor does simply look the other way." Do you see what happens under a system in which the doctor is penalized for his virtue or, at the least, is deprived of any incentive, spiritual or material, including pride in his judgment and payment for his work? Would you like your cardiogram to be in a pile on this new breed's desk? Yours is next—all of ours are.

The cancer is growing inexorably. The debased standards inherent in government medicine are now spreading to the whole of medical practice in the United States. The new medicine is not restricted to Medicare patients or to HMO members; it is soon going to engulf private doctors as well, even when they see their own private, paying patients. There are many reasons for this. The most obvious is the pressure from the health-insurance companies, such as Blue Cross and Blue Shield. Hospitals now are charging higher rates to private patients in order to recoup their losses on Medicare cases. As a result, the private insurance companies are screaming, and demanding that a DRG-type system be imposed uniformly, on all patients. They want private insurance policies from now on to pay only according to arbitrary, preset DRG rates, just as Medicare does now, which would put the total of medicine in this country—all patients, all doctors, all ailments—into the same category as the heart-attack patient we discussed earlier. H fate would become everyone's, and the standards American medicine would simply collapse.

If this demand of the insurance companies surpris you, remember that there are no truly private healt insurance companies in the U.S. today. What we have, essence, is a government-protected, governmen regulated cartel in this field. And what the cartel wants not more freedom, but more money by means government favors, including stiffer government co trols over medical costs.

The end of the Medicare road, in other words, complete socialized medicine.

Now you can see the absurdity of the claim that sta payment of medical bills will not affect the freedom physicians or the quality of patient care. State fundi necessarily affects and corrupts every private servic Communism, in fact, is essentially nothing more tha state funding. The Soviets pretty much leave docto and everyone else, free to dream or fantasize with their own skulls; all the government does is fund ever thing, i.e., take over the physical means of every citizer existence. The enslavement of the country, and thus th collapse of all standards, follows as a matter of cours

Now let me backtrack for a minute. I have been mai taining that the cause of our soaring health-care costs government funding of medical care. Many observe however, claim that the cause is something differen the rapid advances in medical technology, such as CA scanners or the latest, most sophisticated diseas detecting instruments, the magnetic resonance imagir or MRI machines. Some people, accordingly, want limit such technology or even abolish it. Let me answ this objection briefly.

Technology by itself does not drive up costs; in fact, generally reduces costs as it improves the quality of lif The normal pattern, as exemplified by the automobi and computer industries, is: a new invention is expe sive at first, so that only a few can afford it. But invento and businessmen persevere, aiming for the profits th come from a mass market. Eventually, they discov cheaper and better methods of production. Graduall costs come down until the general population can affo to buy. No one is bankrupted, everyone gains.

What creates national bankruptcy is not technolog but technology injected into a field by governme decree, apart from supply and demand. That is what happening in medicine today. State-of-the-art medic treatment—including new inventions or procedur that are still prohibitively expensive, such as liver tran plants and long-term dialyses—is being financed by th government for the total population in the name egalitarianism. The result is the unbelievable expend tures that are made routinely in our hospitals, far beyon most people's capacity to afford. These expenditures ar particularly evident in regard to the terminally ill, wh almost always fall under the umbrella of som government-supported insurance program. It has bee estimated that 1% of our GNP is now spent on the *dyin*

their last *weeks* of life. Did you hear that? Or, looked in another way: *one-half* of a man's lifetime medical penses occur now in the last *six months* of his life.

In a free society, you yourself would have to make a oice: do you want to defer consumption, cancel vacans, forego pleasures year after year, so as to extend ur life in the ICU by a few months at the end? If you , no one would interfere under capitalism. You could ard your cash and then have a glorious spree in the spital as you die. I would not care to do this. It does t bother me that some billionaire can live months nger than I by using machinery that I cannot begin to ord. I would rather be able to make ends meet, enjoy life, and die a bit sooner. But in a free society, you are t bound by my decision; each man makes and finans his own choice. The moral principle here is clear-: a man has a right to act to sustain his life, but no right loot others in the process. If he cannot afford some ience-fiction cure, he must learn to accept the facts of ality and make the best of it.

In fact, in a free society, the few who could afford stly discoveries would, by the normal mechanism, lp bring the costs down. Gradually more and more of could afford more and more of the new technology, d there would be no health-cost crisis at all. Everyone uld benefit, no one would be crushed. The terminally would not be robbing everyone else of his life, as is ppening now, thanks to government intervention; e elderly would not be devouring the substance of the ung.

Well—to return to my main theme—have I now vered, at least in essence, the way in which governent is wrecking the practice of medicine and tighteng the noose around the doctors' necks? I have barely ratched the surface. For example, I have not even entioned the formal introduction of the principle of llectivism into medical practice—of committeeedicine as against individual judgment. This is exemified by the flourishing PROs in our hospitals, the ofessional Review Organizations, which act to oversee nd strengthen the various DRG controls. PROs are mmittees of doctors and nurses established by the vernment to monitor the treatment of Medicare atients, and especially to cut its cost—committees with bstantial power to enforce their arbitrary judgments h any dissenting doctor. These committees are the quivalent, in the Medicare system, of the HMO admintrators, and have potentially the same kind of allmcompassing power to forbid hospital stays (along ith the associated tests and surgical procedures), even hen the admitting doctor thinks they are required.

Nor have I yet mentioned CONs, or Certificates of eed. Since the government regards anything new in he field of medicine as potentially expensive, a hospital oday is prohibited from growing in any respect, hether we speak of more beds or new technology, nless the administrator can prove "need" to some offial. Since "need" in this context is undefined and nprovable, the operative criterion is not "need" at all, but pull, political pull. Under this program, the government last year denied Sloan-Kettering, the famous New York cancer hospital, permission to purchase an MRI machine, because another New York hospital already had it. Later, the government backed down in the face of the resulting public uproar. But what about the hospitals that do not enjoy such fame or contacts, and that are inexplicably denied the right to acquire a new and crucial diagnostic tool? So far, the freeze on them is only partly effective. Doctors are still allowed to purchase new equipment for their own offices, which hospital patients now often use. But the government is fighting to close this loophole; it is on the verge of decreeing that private doctors in their own offices out of their own funds cannot purchase new equipment without a government certificate of "need." Here again, by the way, you can see how *your* care will be affected, even if you are not a Medicare patient. If your doctor or hospital is not allowed to have the equipment, you cannot benefit from it either. It isn't there. It doesn't exist.

Nor have I mentioned the hundreds—yes, hundreds—of other government interventions in medicine. In the space of a year, state legislatures alone recently enacted almost 300 pieces of health-cost containment legislation. One hospital in New York now reports to 99 separate regulatory agencies.

And I have not touched on what is perhaps the most demoralizing crisis in the field of medicine today, demoralizing to the doctors; the *malpractice* crisis. We must, however, pause on this one, because it illustrates dramatically, in yet another form, the lethal effects of government intervention in the field of medicine.

Medical malpractice suits have trebled since 1975. There are now about sixteen lawsuits for every hundred doctors. In addition, awards to plaintiffs today average around $330,000 and are steadily climbing. The effect of this situation on physicians is unspeakable. First, I have been told, there is fear, chronic fear, the terror of the next attorney's letter in the mail. Then there is the agony of drawn-out legal harassment, including endless depositions and a protracted trial. There is the exhaustion of feeling that one lives in a malevolent universe, and that every patient is a potential enemy. Always, there is the looming spector: a career-destroying verdict. And whatever the verdict, win or lose, there is the fact that *all* of the doctors, innocent and guilty alike, are paying for it. They are paying for the exorbitant awards in the form of unbelieveable insurance premiums—over $100,000 per year per physician in some places.

In response to this situation, doctors are forced to engage wholesale in what is called "defensive medicine," i.e., the performing of unnecessary tests or procedures solely in order to build a legal record and thereby prevent the patient from suing later. For example, I heard about the case of a man falling and bumping his head slightly. Since there was no evidence of any head injury, there was no basis, in the doctor's judgment, to order an expensive series of skull X-rays. But if he does not order it, he takes a chance: if, months or even years

later, the man should develop mysterious headaches, the doctor might be sued; he might be charged retroactively with negligence, since he ommitted a test that might have shown something that might have prevented the headaches. So the doctor has no choice; he has to order the tests to protect himself. By a conservative estimate, defensive medicine now accounts for about *one-third* of all health-care costs.

Since the medical profession did not suddenly turn evil or irresponsible in the last decade or so, we must ask what is the cause of the soaring lawsuits. The most immediately apparent answer lies in the law, which has now lost any pretense at rationality. The standards of liability are corrupt. Negligence, in any rational sense of the term, is no longer the legal standard. Today's standard, in effect, demands of the doctor not responsible care, but omniscience and omnipotence.

For example, if a doctor prescribes a drug that is safe by every known test, and years later it is discovered to have side effects undreamed of at the time, the doctor can be sued. Was he negligent? No, merely non-omniscient. If he treats a patient with less than the most expensive technology, whether the patient can afford it or not, he can be sued. "You open yourself to a malpractice suit," says an attorney in the field, "if you even give the appearance of letting financial considerations conflict with good patient care."[1] Or: if a baby has a birth defect that can be ascribed to the trauma of labor, the obstetrician may be sued for *not* having done a Caesarian, even though there were no advance indications in favor of one—because as one obstetrician puts it, people assume "that anything less [than perfection] is due to negligence."[2] This last statement actually reveals the operative principle of the law today, not of some crackpot left-wing radical, but of the *law*: the patient is entitled to have whatever he wishes, regardless of cost or means; it makes no difference what doctors know, or whether the money exists; the patient's desire is an absolute, the doctor is a mere serf, expected to provide all comers with an undefined "perfect care" somehow.

Do you see where this idea comes from? It is the basic principle that underlies and gave birth to Medicare. "You the patient," Washington said in the 1960s, "need do nothing to earn your medical care or your cures. From now on you need merely *wish*, and the all-powerful government will do the rest for you somehow." Well, now we see the result. We see the rise of a generation of patients (and lawyers) who believe it, who expect treatment and cures as a matter of right, simply because they wish it, and who storm into court when their wish is frustrated.

The government not only inculcates such an attitude, but makes it seem financially feasible as well, because Washington has poured so much money into the field of medicine for so long. How else could anyone afford the defensive tests, or the inflated medical prices necessary to help pay for the incredible malpractice awards? They could not have been afforded in a free-market context. In the days of private medicine, there was no malpractice crisis; there was neither the public psychology r the irresponsible funding that it requires. But nc thanks to government, there is both. And there is als large enough corps of unscrupulous lawyers who a delighted to cash in on the disaster, lawyers who a eager to extort every penny they can from conscie tious, bewildered, and in most cases utterly innoce doctors—while grabbing off huge contingency fees themselves in the process.

The only solution to the malpractice crisis is a ratio definition of "malpractice," which would restrict t concept severely, to cases of demonstrable negliger or irresponsibility, within the context of objective de nitions of these terms, taking into account the kno edge and the money available at the time. But this impossible until the government gets its standards a its cash out of the medical business altogether.

Ladies and gentlemen, we are all kept alive by t work of man's mind—the individual minds that s retain the autonomy necessary to think and to functi In medicine, above all, the mind must be left free. Me cal treatment, as I have said, involves countless variab and options that must be taken into account, weigh and summed up by the doctor's mind and subconscio Your life depends on the private, inner essence of t doctor's function: it depends on the input that enters brain, and on the processing such input receives fr him.

What is being thrust now into the equation? It is r only objective medical facts any longer. Today, in o form or another, the following also has to enter t brain: "The DRG administrator will raise hell if I opera but the malpractice attorney will have a field day don't—and my rival down the street, who heads t local PRO, favors a CAT scan in these cases, I can't affo to antagonize him, but the CON boys disagree and th won't authorize a CAT scanner for our hospital—a besides the FDA prohibits the drug I should be prescr ing, even though it is widely used in Europe, and the I might not allow the patient a tax deduction for it, ar how, and I can't get a specialist's advice because t latest Medicare rules prohibit a consultation with t diagnosis, and maybe I shouldn't even take this patie he's so sick—after all, some doctors are manipulati their slate of patients, they accept only the healthi ones, so their average costs are coming in lower th mine, and it looks bad for my staff privileges . . ." E Would you like your case to be treated this way—b doctor who takes into account your objective medi needs *and* the contradictory, unintelligible demands 99 different government agencies and lawyer-squads you were a doctor, could you comply with all of Could you plan for or work around or deal with t unknowable? But how could you not? Those agenc and lawyer-squads are real, and they are rapidly gaini total power over you and your mind and your patier

In this kind of nightmare world, if and when it tak hold fully, thought is helpless; no one can decide rational means what to do. A doctor obeys the loud

hority. Or he tries to sneak by unnoticed, bootleg-
g some good health-care occasionally. Or he gives up
d quits the field.

Now you can understand why the philosophy of
jectivism holds that mind and force are opposities—
d why innovation always disappears in totalitarian
untries—and why doctors and patients alike are going
perish under socialized medicine, if its invasion of this
ion is not reversed.

Conservatives sometimes observe that government,
freezing medical fees, is destroying the doctors'
ancial incentive to practice. This is true enough, but
point is different. With or without incentive, the
ctors are being placed in a position where they liter-
y cannot function—where they cannot think, judge,
ow what to do, or act on their conclusions. Increas-
gly, for a man who is conscientious, today's govern-
ent is making the practice of medicine impossible.

The doctors know it, and many have decided what to
about it. In preparation for this talk, I spoke to or
ard from physicians around the country. I wanted to
rn their view of the state of their profession. From
w York to California, from Minnesota to Florida, the
sponse was almost always the same: "I'm getting out of
edicine." "I can't take it any more." "I'm putting every
nt I can into my pension plan. In five years, I'll retire."
Such is the reward our country is now offering to the
ctors, in payment for their life-saving dedication,
ort, and achievements.

As to talented newcomers rising to replace the men
o quit, I want to point out that medical-school enrol-
ents are now dropping. Bright students today, says the
esident of the Mount Sinai School of Medicine, are
iscouraged by the perception of growing government
gulation of medicine."[3] Note that it is bright students
out whom he speaks. The other kind will always be in
nple supply.

Any government program has beneficiaries, who fight
keep the program going. Who is benefiting from the
struction of the doctors? It is not the poor. A genera-
n ago, the poor in this country received excellent care
rough private charity, comparatively much better care
an they are going to get now, under the DRG and
MO approaches. The beneficiary is not the poor, but
ly one sub-group among them: those who do not
ant to admit that they are charity cases, those who want
pretend that they are entitled to medical handouts as
matter of right. In other words, the beneficiary is the
shonest poor, who want righteously to collect the
earned and consider it an affront even to have to say
Thank you." And there is another beneficiary: the new
to-5, civil-servant doctor, the kind who once existed
ly on the fringes of medicine, but who now basks in
e limelight of being a physician and healer, because
s betters are being frozen out. And there is one more
eneficiary: the medical bureaucrats, lobbyists, legisla-
rs, and the malpractice lawyers—in short, all the force-
elders now slithering out of their holes, gorging
emselves on unearned jobs, money, fame and/or
power, by virtue of having sunk their fangs into the body of the medical profession.

Altruism, as Ayn Rand has demonstrated, does not mean kindness or benevolence; it means that man is a sacrificial animal; it means that some men are to be sacrificed to others. America today is a textbook illustration of her point. The competent doctors, along with their self-supporting patients, are being sacrificed—to the parasites, the incompetents, and the brutes. This is how altruism always works. This is how it has to work, by its nature.

The doctors resent today's situation passionately. Many of them are ready to quit, but not to fight for their field—at least, not to fight in the manner they would have to, if they were to have a chance of winning. In part, this is because the doctors are frightened; they sense that if they speak out too loudly, they may be subject to government reprisals. Above all, however, the doctors feel guilty. Their own professional motivation— the personal, selfish love of their field and of their mind's ability to function—*is* noble, but they do not know it.

For ages they have had it pounded into them that it is wrong to have a personal motivation, wrong to enjoy the material rewards of their labor, wrong to assert their own individual rights. They have been told over and over that, no matter what their own desires, they *should* want to sacrifice themselves to society. And so they are torn now by a moral conflict and silenced by despair. They do not know what to say if they quit, or how to protest their enslavement. They do not know that selfishness, the rational selfishness they embody and practice, is the essence of virtue. They do not know that they are *not* servants of their patients, but, to quote Ayn Rand, "*traders*, like everyone else in a free society"—and they should bear that title proudly, considering the crucial importance of the services they offer."[4] If the doctors could hear just this much and learn to speak out against their jailers, there would still be a chance; but only if they speak out as a matter of solemn justice, upholding a moral principle, the first moral principle: self-preservation.

Thereafter, in practical terms, they—and all of us—could advocate the only solution to today's crisis: removing its primary cause—in other words, closing down Medicare. Reducing Medicare's budget is not the answer—that will simply tighten the DRG noose. The program itself must be abolished. In principle, the method is simple: phase it out in stages. Let the government continue to pay, on a sliding scale, for those who are already too old to save for their final years; but give clear notice to the younger generations that there is a cut-off age, and that they must begin now to make their own provision for their later medical costs.

Is there still time for such a step? The most I can answer is: in ten years, there won't be—that is how fast things are moving. In ten years, perhaps even in five, our medical system will have been dismantled. The best doctors will have mostly retired or gone on strike, and the government will be so entrenched in the field that

nothing will get rid of it.

If you are my age, you may sneak by with the rest of your lifespan, counting on the remnants of private medicine that still exist. But if you are like many of the faces I see out there—in your teens, twenties, thirties—then God help you! To you, I want to conclude by saying: find out what is going on in this field—don't take my word for it—and then act, let people know the situation, in whatever way is open to you. In particular, talk to your doctor. If you agree with the Declaration of Independence, tell him that he, too, comes under it; that he, too, is a human being with a right to life; and that you want to help protect his freedom, and his income, on purely selfish grounds.

If you are looking for a crusade, there is none tha more idealistic or more practical. This one is devoted protecting some of the greatest creators in the history this country. And it is also, literally, a matter of life a death—*your* life, and that of anyone you love. Don't it go without a fight.

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Briefly Noted

Marshall B. Block, M.D, Phoenix endocrinologist and editor of *Arizona Medicine*, has been named Medical Director of the new 15-bed Humana Hospital—Phoenix Diabetes Center.

Harold E. Gries, M.D., Peoria, is the new medical director at Pueblo Norte Nursing Center, Plaza del Rio, Peoria. Dr. Gries has served as head of the Department of Family Practice at Bosweil Memorial Hospital.

Ronald P. Spark, M.D., President of the Pima County Medical Society, was the guiding force behind Tucson's Project Graduation campaign. The program enlisted the support of schools and young people in promoting a chemical-free graduation. Spark, a pathologist, said that last year, of the 91 Pima County teens who died, 35 were accidental deaths and most involved alcohol.

The growing problem of professional liability insurance was the topic of an American Medicine Association sponsored teleconference presented in cooperation with the Arizona Medical Association in Phoenix in June. Professional Liability Committee members who attended the teleconference were: **Drs. Earl J. Baker, Jack Brooks, William J. Mangold, William R. Myers, Edward Sattenspiel, William C. Scott, Loren Fritz Taylor,** and **Neil O. Ward.**

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The End Is Just the Beginning

With this issue of *Arizona Medicine*, a chapter in the history of this journal comes to a close. Approximately 40 years ago the first issue of *Arizona Medicine* appeared under the able leadership of Dr. Frank J. Milloy. Prior to that, the earliest medical news from the Arizona Territory appeared irregularly in the *Journal of the American Medical Association*. An annual bulletin was sometimes published in those early days, however, the State Medical Association has only a few copies of those issues in its archives. Ultimately, *Southwest Medicine*, incorporating Arizona, New Mexico and Western Texas appeared, and was for awhile the official vehicle for the State Medical Society. Dr. Warner Watkins was the Editor. However, because of World War II, between 1939 and 1943, semi-annual bulletins again appeared in *Southwest Medicine*, and ultimately it was decided to discontinue that publication. It was at that point that the Medical Association opted to begin its own journal devoted entirely to the State of Arizona. From 1944 through the present, *Arizona Medicine* has had the good fortune to have as its editors, men of great wisdom and foresight. Because of their contributions, *Arizona Medicine* progressed and became with each change in leadership, a little bit better. Drs. Lee Foster, Darwin Neubauer, Robert F. Lorenzen, John R. Green, Roland F. Schoen, and John W. Kennedy served faithfully without remuneration between 1952 and 1977. Reviewing those issues of *Arizona Medicine* lead me to understand a great deal about the history of our State, and to appreciate the rapid changes which have taken place. For instance, one professional building housing all the physicians in downtown Phoenix has mushroomed in 30 years to the present megalopolis which we now know.

Furthermore, the issues facing medicine in general were not very different than what we are facing today. In 1944 the thrust of the first issue was to point out the dangers and perils facing organized medicine by the Wagner-Murray-Dingle Bill then before the United States Congress. Medical care was to be financed by a levy against the employee and the employer, and it was to be administered by the Su geon General of the Public Health Servi and the Social Security Board. The fe and concerns expressed in that issue ha come to fruition in 1985. Medicine h undergone dramatic changes the last se eral years, many coming to a head now has been proposed that the future lies organizations of large size, and it h been proposed that corporations will u mately control the delivery of medi care.

It is therefore not out of place for t Delegates to the House of Delegates the *Arizona Medical Association* to ha voted to amalgamate *Arizona Medici* with *The Western Journal of Medicir* Other reasons for this fusion will detailed in the first combined issue these two journals this August. Howev we as a State will have the ability to pr duce as many editorial pages as we wou like, be they socio-economic or scientif within the covers, of *The Western Journ of Medicine*. We will thus have our ov identity even though we have joined t California, Idaho, Nevada, New Mexic Utah, Washington State and Wyomi Medical Associations in supporting representative publication for our gre area of the United States. Hopefully, th larger more forceful publication will ha a greater effect on the broader issues fa ing medicine in general today.

Although we will be losing our separa identity, and one always feels sadden when this occurs, the union of the tw should more than offset the changi name and thus your Editorial Board, well as the Subspecialty Editors, a actively looking forward to *Arizona Me icine's* re-emergence within the covers *The Western Journal of Medicine*. Thu the end is really just the beginning, beginning which hopefully will contin to develop and become a chapter in th evolution of *Arizona Medicine*. Look f us next month within the covers of *Th Western Journal of Medicine* as w attempt to move with the times an become a more potent force in th marketplace.

Marshall B. Block, M.D.
Editor

ıe Cancer Center —
ıere Do We Go From Here?

Ground was broken in November and nstruction of the Arizona Cancer Cen- is now well underway. Completion is ıeduled for summer of 1985. This signif- nt addition to the profile of the Health ences Center at the University of Ariz- a provides an opportunity to look at Cancer Center itself, its history, cur- nt activities and future.

Physicians in Arizona were among the t to recognize the advantage of having esearch center in Arizona. They gained cess to the most advanced information cancer diagnosis and treatment ough consultation with colleagues re at the University and could offer ir patients opportunity of second inion without leaving the state. Many tients have the advantage of advanced atment programs monitored and ministered by their hometown physi- n working with University faculty.

Referral of patients for advanced treat- nt programs has grown steadily by out 20 percent a year. The Cancer Cen- will see approximately 1600 new tients in 1985.

Community support of the Arizona ncer Center has also been gratifying. A blic campaign has raised nearly $10 llion from private individuals, founda- ns and corporations. The overall pro- ct, including construction and uipment, is projected to cost $15 llion.

The need for this facility has long been dent to patients and their families as ll as to the physicians and researchers. nics and research programs are con- cted in six different locations spread er a half-mile area, including several sites within the Health Sciences Center. This diffusion frequently demands Herculean effort just to maintain communication and cooperation.

Cancer diagnosis, research, treatment and educational activities began at the University of Arizona College of Medicine in 1971 and were formally organized as components of the Cancer Center by the Arizona Board of Regents in 1976. The National Cancer Institute has awarded core support (administrative) funding since 1978, making us the major NCI-recognized Cancer Center between Houston and Los Angeles.

All this activity has been conducted in laboratories, clinics and offices scattered throughout the Health Sciences Center. These activities will be moved into one of the most attractive and significant structures at the University when the new building is ready.

The five-story building is designed to complement the architecture of University Medical Center and the College of Medicine. It will be located northeast of the main entrance and hospital wing. Funded research includes scores of individual laboratory and clinical projects funded by the NCI, the American Cancer Society, the Leukemia Society of America, the pharmaceutical industry and private contributions.

Headlining our ongoing research are three major multifaceted NCI program projects: Heat and Radiation Program Project, studying the laboratory and clinical effects of combining heat with radiation; Medical Oncology Program Project, studying anticancer drug development, clinical trials and the clonogenic assay; and the Vitamin A Program Project, studying anticancer properties of the vitamin and closely related compounds.

Our NCI Core Support Grant, awarded in and funded since 1978, established the Arizona Cancer Center as a link in the nationwide research network. A large number of institutional and cooperative group research protocols are being tested in our multidisciplinary medical oncology and radiation oncology clinics. Laboratory research is conducted in a wide range of basic science fields as well as in clinically-related areas.

Among the exciting new research programs of the Cancer Center are: laboratory research in drug therapeutics studies (pharmacokinetics) and new drug testing; clinical research on the effectiveness of monoclonal antibodies for diagnosis of prostate cancer and melanoma and use of interferon to treat hairy cell leukemia and a variety of other tumor types.

We are conducting research in the prevention of a number of cancers including skin cancer and cervical cancer. In one project we are testing a program for teaching skin cancer prevention in elementary school grades four through eight.

Our excellent track record in areas of drug testing and new drug screening continues to be a base for advanced research and attractive new laboratory and clinical investigation. We continue our leadership role in the study and application of hyperthermia (heat plus radiation) as a way to improve therapy. We are interested in ways to prevent cancer in high risk populations and are looking toward a variety of Cancer prevention research activities. The fight against Cancer goes on with vigor in Arizona.

Sydney E. Salmon, M.D.
Director
Arizona Cancer Center
Louis J. Kettel, M.D.
Dean
College of Medicine
University of Arizona

Presidential Address

Gary L. Henderson, M.D.

Presented to the House of Delegates
April 26, 1985

I have been afforded the privilege of making some remarks to set tone for the next year at the Arizona Medical Association. First I would like to say that the opportunity to serve the society is an honor and privilege and is approached with a sense of awe and humility. As in carrying out any duty of this nature, I am sure I will get a lot more out of serving the society than I will be able to give to it.

I would like to recognize the efforts of Dr. Earl Baker for the past year. I would refer you to his 1984-85 annual report. The problems which befell his administration were quite difficult, and he is to be congratulated on the handling of the problems and their outcome. He has been an inspiration in his tireless efforts to promote the interests of the physicians and patients of Arizona. He would often tell me that there were so many places that we could do so much good for so many people. It is indeed a pleasure to be associated with him.

I would also like to express my appreciation to my wife, Diana, for her unconditional support and her superb typing.

There are several unique features this year in organized medicine. It is a year of the young physician. It is a year of need for strengthening our medical alliances. It is a year of change.

First, we need the involvement of the young physician in our Association. I am calling for an effort from our Association to identify young physicians in practice for less than five years. We need to get their involvement in a meaningful sense on committees and groom them for leadership roles. Identify them early and involve them heavily. We have always had the participation of medical students, interns and residents, but I am making a renewed call for their involvement. We need their enthusiasm and their foresight. I have had the privilege of working with a medical student since his freshman year at the University of Arizona and look forward to watching him take responsibility in medicine and organizations such as this one. Please meet him at the Presidential Banquet this evening. His name is John Wilson.

I am also calling for the renewal of efforts to attract other members of the medical community to join organized medicine. There seems to be no more effective way to attract members than the one-to-o approach, eyeball to eyeball, one peer to another. I challenging our current members to each recruit o other new member for the calendar year. This may an unrealistic goal but one which would have drama results.

There is no lack of attractiveness to joining t Association. We can point with pride to the accon lishments of this society in the legislative area, efforts in the area of membership benefits and identity of this group as a concerned humanitar organization. All we need to do is tell our story. Th are a lot of nonmembers out there. All we need to d go get them.

There are many other groups that are potential all in all phases of our Association, but I believe that need to recognize that the Auxiliary has helped us the past and will continue to help us in the future. I lo forward to a year of cooperation with the Auxiliary a with its president, Susan Cummins. Certainly I wo like to recognize Auxilians for their contributions serving our respective communities. They have ma major efforts in health education and raising funds AMA-ERF as well as helping with our many activiti

Through our involvement in ArMPAC we have de loped the beginnings of a healthy relationship with t legislature and certainly a better opportunity for a tening ear. Each member of the Association should to know your legislators and let them know your co cerns on all issues. We have had improving relatio ships with the media and we need to strengthen the We need the continued involvement of the ongoi dedicated physicians as well as the new young phy cians and the Auxilians to meet the challenge of t changes that are ahead. We also need to continue involve any other allied groups that will aid our cau

In speaking of the future changes of medicine would like to recommend to you an article from t current (April) issue of *Arizona Medicine*, written Lief Beck, "How Your Practice can Cope w Change." This article is most informative.

There is certainly no paucity of material to warn us the changes which are coming our way. An arti which was written and also presented to our Assoc tion last November by Dr. Lloyd Novick of the Univ sity of Arizona discusses 12 megatrends in medici and is helpful in trying to help us brace for the futu This article was reprinted in the January 1985 issue *Arizona Medicine*.

Paul Elwood, at the American Medical Associati Leadership Conference in February 1985, predict the corporate takeover of the health care market. Pa Starr essentially agreed with Paul Elwood with t following statement. "The largest threat to the chara

of medical practice is neither government involve-
nt nor technical change, but the emergence of
ltihospital corporation that have the size, political
wer and profit motivation to dictate patterns of prac-
e never contemplated by the government."

The practical thrust of this concept is that those of us
rking in the private sector may be working for major
rporations in the future. This certainly puts the
ure of organized medicine in Arizona on notice. We
st educate our membership and be prepared to
et the challenges of the changes and keep our
sociation attractive to the corporate physicians as
ll.

There are several issues facing you in the House of
legates.

One is the possible demise of *Arizona Medicine* or its
algamation with the Western Journal of Medicine.
preparing the text of this speech I was certainly
oud of this present journal. If we can find a way to
ancing, even as a socio-economic journal, it would
helpful in future recruitment efforts,and I believe it
uld be a source of professional pride to our
ganization.

There are many issues which will require the collec-
e wisdom of the Association membership; the eco-
mics of medical care, the malpractice relief
tivities, the AHCCCS reimbursement problems, the
oads by para professionals, the activities of the PRO
oblems, the list goes on and on. I invite the wisdom of
ch one of you in the critical issues facing our Associ-
on. I have tried to propose several avenues of deal-
g with these issues. Let me summarize:

We need education of our membership—prepare
em for change. Anticipate and strengthen our Asso-
ation with young physicians. Encourage our contin-
ng participants. Try to anticipate the needs of the
rporate physician. Above all, don't lose sight of ethi-
l principals and your care and concern for the
tient. Changes in attitudes are needed to meet
anges in the times.

Change is inevitable! To survive and prosper and
eet our needs we must live with an open-end attitude
d keep looking ahead with optimism and con-
dence.

Admittedly, medicine has become more and more a
mputerized, technological business and less and
ss the practice of an art as it was fifty years ago. But
ere still remains the basic dedication of the physician
the well being of his patient. The physician needs
e freedom to apply that dedication in order to gain
e utmost benefit for his patient. We have taken heart
om the remarks by Dr. Boyle in his inaugural address
n assuming the presidency of The AMA in June 1984
which he called upon us to rededicate our profes-
onal lives to the fundamental ethics that led use to a
areer in medicine in the first place—caring for people.
What we need from our leaders and, even more
portantly, from ourselves are the great strengths of
ality, vision and character. We need determination to
keep advancing on the long road to the good, despite whatever difficulties and disappointments and frustrations we may find on the way. Finally, I close with a quote from "Ethics of the Fathers".

The day is short, the work is hard
Ours is not to complete the task
Yet neither are we free to neglect it.

The Arizona Medical Association, Inc. Resume

of the House of Delegates 1985 Annual Meeting Second Regular Session April 27, 1985

Adjourned meeting of the House of Delegates of the Arizona Medical Association, Inc., held at the Stouffer Cottonwoods Resort, Scottsdale, Arizona, April 27, 1985, convened at 8:36 a.m., Robert A. Price, M.D., Speaker of the House, presiding.

The House was addressed by Joseph Boyle, M.D., President of the American Medical Association.

Credentials

The Credentials Committee reported a quorum present and the House duly constituted.

Roll Call

On the Roll Call, 95 Delegates (and/or Alternate Delegates) and 28 members of the Board of Directors were present.

Minutes

Minutes of the meeting of the House of Delegates held April 28, 1984, were approved as distributed.

Election of Officers

The following officers were elected for terms of one or two years, as indicated:

President-Elect
Neil O. Ward, M.D. (1985-1986)

Vice President
Robert S. Hirsch, M.D. (1985-1986)

Treasurer
Mark Ivey, Jr., M.D. (1985-1987)

Speaker of the House
Robert A. Price, M.D. (1985-1986)

Vice Speaker of the House
Richard O. Flynn, M.D. (1985-1987)

The following were elected for a term January 1, 1986 to December 31, 1987:

Delegate to the AMA
Edward Sattenspiel, M.D.

Delegate to the AMA
Richard D. Zonis, M.D.
Alternate Delegate to the AMA
John F. Kahle, M.D.
Alternate Delegate to the AMA
Franklin D. Loffer, Jr., M.D.
Elected to fill the newly-added Delegate and Alternate Delegate positions for the term January 1, 1985 to December 31, 1986 (new Delegates position as a result of 75% ArMA members being AMA members):
Delegate to the AMA
Joseph S. Whaley, M.D.
Alternate Delegate to the AMA
John K. Kerr, M.D.
Elected to fill the unexpired term of Joseph S. Whaley, Alternate Delegate, for term January 1, 1985 to December 31, 1986:
Alternate Delegate to the AMA
Neopito L. Robles, M.D.
Election of District Directors
The following District Directors were elected:
Central District Director — Iain A.D. Todd, M.D. (1985-1988)
Central District Director — H. Belton P. Meyer, M.D. (1985-1988)
Northwestern District Director — Leonard A. Wright, M.D. (1985-1988)
Northeastern District Director — Alfonso L. Munoz, M.D. (1984-1987) (to fill unexpired term of Mark Ivey, Jr., M.D.)
Reference Committee on Amendments
Report of the Reference Committee on Amendments as deleted, amended or as otherwise disposed of, was adopted with the following actions taken on motions regularly made and carried:

Resolution A-1-85
Subject: Creation of Office of Vice-Speaker of the House
Whereas, During its 1984 Annual Meeting, the House of Delegates adopted Resolution No. 12-84 calling for the establishment of an office of Vice-Speaker of the House of Delegates and directing the Articles of Incorporation and Bylaws Committee to draft the appropriate bylaws changes to accomplish this; and
Whereas, The Articles of Incorporation and Bylaws Committee, in meeting on October 20, 1984, did develop revisions to the bylaws to create an office of Vice-Speaker, as well as delineate the duties of such office; now, therefore, be it
Resolved, That the Bylaws of the Arizona Medical Association be amended as follows:

Chapter IV
Officers

Section 1 be amended to read in its entirety as follows:
Section 1. The following shall be officers of the Association:—The Past-President, the President, the President-Elect, the Vice President, the Secretary, the Treasurer, the Speaker of the House, THE VICE-SPEAKER OF THE HOUSE, the Delegates to the American Medical Association, the Alternate Delegates to the American Medical Association, and the District Directors. All of the officers shall be members of and shall constitute the Board.
Section 9 be amended to read in its entirety as follows:
Section 9. Speaker:—The Speaker shall preside at the meetings of the House and shall perform such duties as custom and parliamentary usage require. The Speaker shall have the right to vote when the vote is by ballot, otherwise only when the Speaker's vote shall be the deciding vote. *The immediate Past-President shall serve as Vice Speaker and shall assume the duties of the Speaker in the Speaker's absence. In the absence of the immediate Past President, the Vice-Speaker may be elected from the House for that particular session.*
By adding the following new section:
SECTION 10. VICE-SPEAKER:—THE VICE-SPEAKER SHA ASSIST THE SPEAKER IN THE DISCHARGE OF THE SPEAKER DUTIES AT THE REQUEST OF THE SPEAKER OR IN TH ABSENCE OF THE SPEAKER. THE VICE-SPEAKER SHALL HA THE SAME LIMITATION ON VOTING AS THE SPEAKER ONI WHEN PRESIDING AS THE SPEAKER.

Chapter V
Election of Officers and Members of the Board

The first paragraph of Section 3 be amended to read follows:
Section 3. Terms of Office; Qualifications—The followi officers shall be elected for a one year term: the Presider Elect, AND Vice President, *and Speaker of the House.* Th President and Past-President, though not elected as such, al shall have one year terms. The Secretary and Treasurer shall b elected in alternate years for a two year term. THE SPEAKI AND VICE-SPEAKER OF THE HOUSE SHALL ALSO BE ELECTE IN ALTERNATE YEARS FOR A TWO YEAR TERM.

Adopted
April 27, 1985

Resolution A-2-85
Subject: Annual Reports to the House of Delegates
Whereas, The existing Bylaws of the Arizona Medical Assoc ation provide for the preparation of annual reports by a officers and committees, as well as the Executive Vice Pres dent, of the Association and submission of those through th Board of Directors to the House of Delegates; and
Whereas, Many of the reports contain no recommendatio which should be considered and passed on by the Board Directors prior to their being distributed to the members the House and such review by the large number of membe comprising the Board has become cumbersome; and
Whereas, It would appear to be much more efficient ar time-saving for such reports to be made through the Executiv Committee to the House, allowing that committee to forwa such reports as it may select to the Board for informatio discussion or initiation of action; now, therefore, be it
Resolved, That the Bylaws of the Arizona Medical Associ tion be amended as follows:

Chapter IV
Officers

Section 12 be amended to read in its entirety as follows:
Section 12. Reports:—All officers shall make annual repor through the *Board* EXECUTIVE COMMITTEE to the Hous COPIES OF WHICH REPORTS SHALL BE SENT TO EACH DEL GATE BY THE SECRETARY. THE EXECUTIVE COMMITTEE MA SEND ANY REPORT TO THE BOARD FOR INFORMATIO DISCUSSION OR INITIATION OF ACTION.

Chapter VI
Board of Directors

The first paragraph of Section 9 be amended to read follows:
Section 9. Executive Vice President; Offices:—The Boar shall employ an Executive Vice President, who need not be physician, and such other assistants and employees as it ma deem necessary to facilitate and carry out the work of th Association. The Board shall specify their salaries and terms employment. The Executive Vice President shall be under th direction of the President and the Board, but shall have th supervision of all other employees and shall serve as offic manager of the Association. The Executive Vice President sha make an annual report through the *Board* EXECUTIVE COM MITTEE to the House, A COPY OF WHICH REPORT SHALL E

NT TO EACH DELEGATE BY THE SECRETARY. THE EXECUVE COMMITTEE MAY SEND THE REPORT TO THE BOARD OR INFORMATION, DISCUSSION OR INITIATION OF CTION.

Chapter VII
Standing and Special Committees

Section 1 be amended to read as follows:
Section 1. Appointment; Ex-officio Members; Reports;—here shall be standing committees as hereinafter specified, nd such special committees as may be necessary to carry out ie work of the Association. Vacancies in membership in a ommittee shall be filled by appointment by the President with ie advice and consent of the Board. Unless otherwise prodded for in these Bylaws, the chairman of each committee hall be appointed yearly by the President with the advice and onsent of the Board. In the event there is a vacancy in the hairmanship of any committee, a new chairman shall be ppointed by the President with the advice and consent of the oard, unless otherwise provided for in these Bylaws. The hairman and any committee member may be removed by the resident with the advice and consent of the Board. The Presient, President-Elect, and secretary shall be voting ex-officio iembers of all such committees. Each committee shall submit n annual report through the *Board* EXECUTIVE COMMITTEE o the House, a copy of which report shall be sent to each elegate by the Secretary. THE EXECUTIVE COMMITTEE MAY END ANY OF THE REPORTS TO THE BOARD FOR INFORMAION, DISCUSSION OR INITIATION OF ACTION.

Adopted
April 27, 1985

esolution A-3-85
ubject: Designation of Alternate Delegates to the American Medical Association
esolved, That Chapter V of the Bylaws of the Arizona Medial Association be amended in the following particulars:
Paragraph 2 of Section 3 be amended to read in its entirety as ollows:
The Delegates *and Alternate Delegates* to the American Medical Association shall be elected in accordance with the Bylaws of the American Medical Association. If the Association hall be entitled to more than one Delegate, not all terms shall un concurrently. THE PRESIDENT AND PRESIDENT-ELECT SHALL BE DESIGNATED ALTERNATE DELEAGATES DURING THEIR TERM OF OFFICE, AND OTHER ALTERNATE DELEGATES SHALL BE ELECTED IN ACCORDANCE WITH THE BYLAWS OF THE AMERICAN MEDICAL ASSOCIATION. Any nominee for Delegate or, Alternate Delegate, OR DESIGNATED ALTERNATE to the Amercan Medical Association shall be a member of the American Medical Association.
Section 4 be amended to read in its entirety as follows:
Section 4. Beginning and End of Term:—All officers except he Delegates and ELECTED Alternate Delegates to the American Medical Association shall assume office immediately following their election and acceptance to office. The Delegates nd ELECTED Alternate Delegates to the American Medical Association shall take office on January first of the year following election, or in conformity with any revised rules of the American Medical Association. The President-Elect shall assume office as President at the time of the opening of the next general session of the Annual Meeting.

Not Adopted
April 27, 1985

Resolution A-4-85
Subject: Reduction of size of House of Delegates
Resolved, That Chapter VIII, Section 2(A), of the Bylaws of the Arizona Medical Association be amended to read as follows:
Section 2. Number of Delegates:—
(A) County Societies:—Each county society shall be entitled to representation in the House by two Delegates, or their alternates, *for the first twenty FORTY active component members or fraction thereof, and one additional Delegate for each additional twenty* AND, ADDITIONALLY, EACH COUNTY SHALL BE ENTITLED TO ONE DELEGATE OR ALTERNATE FOR EACH FORTY active component members or major fraction thereof (MORE THAN ONE-HALF) as determined on October first preceding the Annual Meeting.

Adopted
April 27, 1985

Resolution A-5-85
Subject: Selection of Direct Member Delegates
Resolved, That Chapter VIII, Section 2(B), of the Bylaws of the Arizona Medical Association be amended to read in its entirety as follows:
Section 2. Number of Delegates:—
(B) Active direct members shall be entitled to representation in the House on the same numerical basis as is provided for Active component members.
A ROSTER OF THE DIRECT MEMBERSHIP SHALL BE SENT TO ALL DIRECT MEMBERS. THIS ROSTER SHALL SERVE AS A BALLOT FOR THE ELECTION OF DELEGATES AND ALTERNATES REPRESENTING THE DIRECT MEMBERSHIP AND SHALL BE RETURNED TO THE ASSOCIATION WITHIN FIFTEEN (15) DAYS. THE APPROPRIATE NUMBER OF DELEGATES AND ALTERNATES SHALL BE CHOSEN BY THE HIGHEST NUMBER OF VOTES RECEIVED AND PROGRESSING THROUGH THE CONSECUTIVE DECREASING NUMBER OF VOTES. IN THE EVENT OF A TIE VOTE, SUBSEQUENT BALLOTS SHALL BE SENT.

Adopted
April 27, 1985

Resolution A-6-85
Subject: Reorganization of ArMA Committees
Resolved, That the Bylaws of the Arizona Medical Association be amended as follows:
Chapter IV, Section 2, be amended to read in its entirety:
Section 2. Past-President:—The Past-President, aside from specific duties otherwise herein assigned, shall advise and counsel the President in the discharge of the office of the President and shall aid the President by accepting such special assignments as may become appropriate. THE PAST-PRESIDENT SHALL BE A MEMBER OF THE COMMITTEE ON PROFESSIONAL AFFAIRS.
Chapter IV, Section 5, be amended to read in its entirety:
Section 5. Vice President:—The Vice President shall assist the President in the discharge of the President's duties. In the event of the President's death, resignation, removal, or extended absence, the Vice President shall assume the duties of the office of President. THE VICE PRESIDENT SHALL BE THE CHAIRMAN OF THE LONG RANGE PLANNING COMMITTEE.
That Chapter VII, Standing and Special Committees, be deleted and replaced in its entirety by the following new Chapter VII:
SECTION 1. APPOINTMENT; EX-OFFICIO MEMBERS; REPORTS:—THERE SHALL BE STANDING COMMITTEES AS HEREINAFTER SPECIFIED AND SUCH SPECIAL COMMITTEES AS MAY BE NECESSARY TO CARRY OUT THE WORK OF THE ASSOCIATION. THE COMMITTEES SHALL HAVE FROM SEVEN (7) TO FIFTEEN (15) MEMBERS AS DEEMED APPROPRIATE. UNLESS OTHERWISE PROVIDED FOR, THE PRESIDENT

SHALL APPOINT, WITH THE ADVICE AND CONSENT OF THE BOARD, THE CHAIRMAN AND MEMBERS OF EACH COMMITTEE. APPOINTMENT WILL BE ON A GEOGRAPHIC BASIS, WITH DUE CONSIDERATION FOR SPECIALTY REPRESENTATION AND LENGTH OF MEMBERSHIP IN THE ASSOCIATION WHEN APPLICABLE. VACANCIES IN MEMBERSHIP IN A COMMITTEE SHALL BE FILLED BY APPIOINTMENT BY THE PRESIDENT, WITH THE ADVICE AND CONSENT OF THE BOARD. THE CHAIRMAN OR ANY COMMITTEE MEMBER MAY BE REMOVED BY THE PRESIDENT, WITH THE ADVICE AND CONSENT OF THE BOARD. THE PRESIDENT, PRESIDENT-ELECT AND SECRETARY SHALL BE EX-OFFICIO MEMBERS OF ALL COMMITTEES IN ADDITION TO THE APPOINTED MEMBERS. EACH COMMITTEE SHALL SUBMIT AN ANNUAL REPORT THROUGH THE EXECUTIVE COMMITTEE TO THE HOUSE, A COPY OF WHICH REPORT SHALL BE SENT TO EACH DELEGATE BY THE SECRETARY. EACH COMMITTEE SHALL BE SUBJECT TO ANNUAL REVIEW BY THE LONG RANGE PLANNING COMMITTEE.

SECTION 2. TERM:—UNLESS OTHERWISE PROVIDED IN THESE BYLAWS, EACH CHAIRMAN SHALL SERVE FOR A TERM OF ONE (1) YEAR AND EACH MEMBER OF A COMMITTEE SHALL SERVE FOR A TERM OF THREE (3) YEARS. IT SHALL BE ARRANGED THAT APPROXIMATELY ONE-THIRD (1/3) OF THE TERMS SHALL EXPIRE EACH YEAR.

SECTION 3. NOTIFICATION OF APPOINTMENT:—EACH COMMITTEE CHAIRMAN AND MEMBER SHALL BE NOTIFIED OF THEIR APPOINTMENT BY THE SECRETARY.

SECTION 4. SUBCOMMITTEES:—A COMMITTEE MAY PROPOSE THE CREATION OF A SUBCOMMITTEE OF THE COMMITTEE BY SUBMITTING TO THE BOARD A PROPOSED CHARTER THAT INCLUDES: (A) A SPECIFIC PURPOSE; (B) A SPECIFIC PROGRAM; (C) A SPECIFIC EXPECTED RESULT; (D) A SPECIFIC TIME LIMITATION, NOT TO EXCEED TWO YEARS, AT THE EXPIRATION OF WHICH THE SUBCOMMITTEE SHALL BE DISCHARGED, UNLESS ITS CHARTER IS RENEWED FOR AN ADDITIONAL SPECIFIED TIME; (E) THE SIZE OF THE SUBCOMMITTEE; AND (F) A SPECIFIC COST ESTIMATE. THE BOARD SHALL REVIEW THE PROPOSED CHARTER AND SHALL APPROVE, DISAPPROVE OR RECOMMEND CHANGES. THE PRESIDENT SHALL APPOINT, WITH THE ADVICE AND CONSENT OF THE BOARD, THE CHAIRMEN AND MEMBERS OF APPROVED SUBCOMMITTEES. THE PARENT COMMITTEE MAY RECOMMEND POSSIBLE APPOINTEES TO THE PRESIDENT.

SECTION 5. STANDING COMMITTEES AND FUNCTIONS:—THE STANDING COMMITTEES AND THEIR FUNCTIONS ARE AS FOLLOWS:

(A) ARTICLES OF INCORPORATION AND BYLAWS:—ALL MEMBERS OF THIS COMMITTEE SHALL HAVE BEEN MEMBERS OF THE ASSOCIATION FOR AT LEAST FIVE (5) YEARS PRIOR TO THEIR APPOINTMENT. THE FUNCTIONS OF THE COMMITTEE ON ARTICLES OF INCORPORATION AND BYLAWS ARE TO (A) RESPOND TO RESOLUTIONS OF THE HOUSE OF DELEGATES BY ISSUING AN ANALYSIS OF SUCH RESOLUTIONS AND/OR PREPARING PROPOSED AMENDMENTS TO THE ARTICLES OF INCORPORATION AND BYLAWS, AND (B) RESPOND TO DIRECTIVES BY THE BOARD BY ISSUING AN ANALYSIS OF THE DIRECTIVES AND/OR PREPARING PROPOSED AMENDMENTS. ALL PROPOSED AMENDMENTS PREPARED IN RESPONSE TO THE HOUSE OR BOARD DIRECTIVES SHALL BE PRESENTED TO THE BOARD FOR ITS CONSIDERATION.

(B) EXECUTIVE:—THE COMMITTEE SHALL CONSIST OF THE PRESIDENT, THE PRESIDENT-ELECT, THE IMMEDIATE PAST-PRESIDENT, THE VICE PRESIDENT, THE SECRETARY AND THE TREASURER. THE FUNCTIONS OF THE EXECUTIVE COMMITTEE ARE TO (A) REVIEW AND SUMMARIZE ROUTINE MATTERS AND CORRESPONDENCE FOR BOARD ACTION; (B) DEVELOP POLICY POSITIONS AND ALTERNATIVES FOR CONSIDERATION AND DECISION BY THE BOARD; (C) DEVELOP AFFIRMATIVE PLANS FOR THE ASSC CIATION TO BE CONSIDERED AND ACTED UPON BY TH BOARD; AND (D) ACT AS ADVISOR TO THE EXECUTIVE VIC PRESIDENT.

(C) FINANCE:—THE TREASURER SHALL SERVE AS CHAI MAN OF THE COMMITTEE ON FINANCE. THE COMMITTI ON FINANCE SHALL ACT IN AN ADVISORY CAPACITY I BUDGETARY AND FINANCIAL MATTERS.

(D) LEGISTATIVE AND GOVERNMENTAL AFFAIRS:—TH FUNCTIONS OF THE COMMITTEE ON LEGISLATIVE AN GORVERNMENTAL AFFAIRS ARE TO (A) REVIEW PROPOSE STATE LEGISLATION AND RECOMMEND APPROPRIA ACTION IN ACCORDANCE WITH ASSOCIATION POLIC (B) RECOMMEND CHANGES IN EXISTING ASSOCIATIO POLICY WHEN NECESSARY TO ACCOMPLISH EFFECTI LEGISLATIVE GOALS; (C) SERVE AS A REFERENCE COMMI TEE THROUGH WHICH ALL STATE LEGISLATIVE ISSUES C THE ASSOCIATION ARE CHANNELED; (D) MAINTAIN CO STANT SURVEILLANCE OVER THE LEGISLATIVE SCENE AN TO ANTICIPATE FUTURE LEGISLATIVE NEEDS; (E) RECOM MEND TO THE BOARD OF DIRECTORS, WHEN TIMELY, NE STATE LEGISLATION AND LEGISLATION TO MODIFY EXIS ING LAWS OF INTEREST TO THE ASSOCIATION; (F) MON TOR THE DEVELOPMENT AND ISSUANCE OF STA REGULATIONS AND TO MAKE RECOMMENDATIONS T THE BOARD OF DIRECTORS CONCERNING THE ACTIO ON SUCH REGULATIONS; AND (G) MONITOR ALL HEALT RELATED PROGRAMS EMANATING FROM STATE OR FE ERAL LEGISLATION.

(E) LONG RANGE PLANNING:—THE VICE PRESIDEN SHALL SERVE AS CHAIRMAN OF THE COMMITTEE ON LON RANGE PLANNING. THE FUNCTIONS OF THE COMMITTE ON LONG RANGE PLANNING ARE TO (A) STUDY AND MAK RECOMMENDATIONS CONCERNING THE LONG-RANG OBJECTIVES OF THE ASSOCIATION; (B) STUDY AND MAK RECOMMENDATIONS CONCERNING THE PROJECTE RESOURCES, PROGRAMS AND ORGANIZATIONAL STRUC TURE BY WHICH THE ASSOCIATION ATTEMPTS TO REAC ITS LONG-RANGE OBJECTIVES; (C) BUILD MEMBERSHIP B RECRUITMENT OF NEW MEMBERS AND BY RETENTION O PRESENT MEMBERS, ORGANIZING AND DIRECTING MEM BERSHIP DRIVES WHEN DEEMED NECESSARY; (D) EVALUAT MEMBERSHIP BENEFIT PROGRAMS, ENDORSING THOSE I BELIEVES WILL PROVIDE INCREASED SERVICES TO MEMBER AND ENHANCE THE ATTRACTIVENESS OF MEMBERSHIP I THE ASSOCIATION; (E) SERVE AS A FOCAL POINT FOR TH PLANNING ACTIVITIES OF THE ASSOCIATION AND STIMU LATE AND EVALUATE PLANNING ACTIVITIES THROUGH OUT THE ORGANIZATION; AND (F) STUDY OR CAUSE TO B STUDIED, ANTICIPATED CHANGES IN THE ENVIRONMEN IN WHICH MEDICINE AND THE ASSOCIATION MUST FUNC TION, COLLECT RELEVANT DATA AND TRANSMIT INTER PRETATIONS OF THESE STUDIES AND DATA TO THE BOARI OF DIRECTORS FOR DISTRIBUTION TO DECISION-MAKIN CENTERS THROUGHOUT THE ASSOCIATION, AND SUBMI REPORTS TO THE HOUSE OF DELEGATES AT APPROPRIAT TIMES.

(F) MATERNAL AND CHILD HEALTH CARE:—THE FUNC TIONS OF THE COMMITTEE ON MATERNAL AND CHILI HEALTH CARE ARE TO REPRESENT THE ASSOCIATION O ALL QUESTIONS RELATING TO MATERNAL AND CHILI HEALTH CARE. THE MEMBERSHIP OF THIS COMMITTE SHALL INCLUDE SPECIALTY REPRESENTATION FROM FAM ILY PRACTICE, OBSTETRICS AND GYNECOLOGY, PEDIAT RICS, AND A PHYSICIAN REPRESENTATIVE FROM TH ARIZONA DEPARTMENT OF HEALTH SERVICES.

(G) MEDICAL EDUCATION:—THE FUNCTIONS OF TH COMMITTEE ON MEDICAL EDUCATION ARE TO (A) REPRES ENT THE ASSOCIATION ON ALL QUESTIONS RELATING TO MEDICAL EDUCATION AT ALL LEVELS INCLUDING TH

)LLEGE OF MEDICINE OF THE UNIVERSITY OF ARIZONA; ADMINISTER THE ARIZONA MEDICAL ASSOCIATION NEVOLENT AND LOAN FUND AND HAVE THE POWER TO AKE DIRECT GRANTS FROM THE INCOME OF THE FUND ASSOCIATION MEMBERS IN FINANCIAL DISTRESS AND ANS ON A REVOLVING BASIS TO ASSIST WORTHY UNG RESIDENTS OF ARIZONA WHO DESIRE TO SECURE MEDICAL EDUCATION; (C) MAKE DIRECT FINANCIAL ANTS TO WORTHY MEDICAL STUDENTS WHO ARE ARIZ-NA RESIDENTS FROM FUNDS DERIVED FROM INTEREST AT HAS ACCRUED ON GENERAL FUNDS OF THE ASSOCI-ION ON DEPOSIT, SUBJECT TO BOARD APPROVAL; (D) ORK OUT DETAILS FOR THE OPERATION OF THIS FUND, TH BOARD APPROVAL. THIS FUND, WHICH SHALL BE ACED IN THE CARE OF THE TREASURER AND ADMINIS-RED BY THE COMMITTEE, SHALL BE MADE UP OF MONEY PROPRIATED TO IT BY THE BOARD OR BY THE HOUSE, ID, IN ADDITION, ANY FURTHER MONEY IN THE FORM CASH GIFTS OR LEGACIES FROM INDIVIDUAL DONORS; ARRANGE FOR SUCH PUBLICATIONS AS THE BOARD AY AUTHORIZE AND DIRECT TO ITS ATTENTION, AND TO PERVISE THE BUSINESS AND ADMINISTRATIVE DETAILS, CLUDING ADVERTISING, RELATING TO SUCH PUBLICA-ONS; (F) COMPILE AND PREPARE FOR THE ARCHIVES AND R THE PUBLICATIONS OF THE ASSOCIATION SUITABLE TA ON THE HISTORY OF THE ASSOCIATION AND PROPRIATE STATEMENTS AND RECORDS CONCERNING CEASED MEMBERS; AND (G) ARRANGE FOR SCIENTIFIC ETINGS. THE MEMBERSHIP OF THIS COMMITTEE SHALL CLUDE A FACULTY MEMBER OF THE UNIVERSITY OF IZONA COLLEGE OF MEDICINE INVOLVED IN CONTINU-G MEDICAL EDUCATION.

H) MEDICAL SERVICE:—THE FUNCTIONS OF THE COM-TTEE ON MEDICAL SERVICE ARE TO (A) STUDY AND ALUATE THE SOCIAL AND ECONOMIC ASPECTS OF MED-AL CARE AND, ON BEHALF OF THE PUBLIC AND THE OFESSION, TO SUGGEST MEANS FOR THE TIMELY DEVEL-PMENT OF SERVICES IN A CHANGING SOCIO-ONOMIC ENVIRONMENT; (B) INVESTIGATE SOCIAL AND ONOMIC FACTORS INFLUENCING THE PRACTICE OF EDICINE; (C) DEAL WITH MATTERS AFFECTING THE ECO-OMIC STATUS OF DOCTORS OF MEDICINE; (D) REPRES-T THE ASSOCIATION ON ALL QUESTIONS CONCERNING ON-PHYSICIAN HEALTH MANPOWER TRAINING PRO-RAMS, AS WELL AS THE DEVELOPMENT OF PROGRAMS TO PROVE THE DISTRIBUTION AND UTILIZATION OF EALTH MANPOWER; AND (E) TO DEVELOP POLICIES AND OGRAMS THAT WILL ASSIST THE ASSOCIATION AND ITS EMBERS TO COMMUNICATE TO THE GENERAL PUBLIC IE OBJECTIVES AND PURPOSES OF THE ASSOCIATION.

(I) PROFESSIONAL AFFAIRS:—THE FUNCTIONS OF THE OMMITTEE ON PROFESSIONAL AFFAIRS ARE TO (A) VIEW MALPRACTICE CLAIMS AGAINST PHYSICIANS AND THER LICENSED HEALTH CARE PROVIDERS AS SPECIFIED AGREEMENTS ENTERED INTO BETWEEN THE ASSOCIA-ON AND COMPANIES PROVIDING PROFESSIONAL LIA-LITY INSURANCE IN ARIZONA AND PROVIDE MEDICAL PINION AND ADVICE TO SUCH COMPANIES ON INDIVID-AL CLAIMS AS WELL AS GENERAL CLAIM MATTERS; (B) UNCTION AS A PEER REVIEW PANEL TO ASSIST WITH NDERWRITING OF MALPRACTICE INSURANCE COVER-GE FOR PHYSICIANS AND OTHER LICENSED HEALTH CARE OVIDERS AS SPECIFIED IN AGREEMENTS ENTERED INTO TWEEN THE ASSOCIATION AND COMPANIES PROVID-G PROFESSIONAL LIABILITY INSURANCE IN ARIZONA;) ASSIST PHYSICIANS WHO HAVE PHYSICAL OR EMO-ONAL PROBLEMS WHICH MAY BE AFFECTING OR IPAIRING THEIR PROFICIENCY IN THE PRACTICE AND THE UALITY OF THEIR MEDICAL OR SURGICAL ACTIVITIES, EALING WITH AND FOLLOWING UP ON EACH CASE AS PPROPRIATE; AND (D) CONSIDER ANY COMPLAINT AGAINST A MEMBER OF THE ASSOCIATION WHICH DIRECTLY RESULTS FROM, RELATES TO, OR AFFECTS PROFESSIONAL ACTIVITIES OF THE MEMBER COMPLAINED AGAINST, AND EITHER:

(1) HAS BEEN CONSIDERED BY THE COUNTY SOCIETY CONCERNED OR A COMMITTEE THEREOF, THE DECISION OF WHICH SOCIETY OR COMMITTEE IS APPEALED TO THE BOARD BY ANY PARTY TO THAT PROCEEDING, OR

(2) WAS ONE IN WHICH THE BOARD TOOK ORIGINAL JURISDICTION PURSUANT TO CHAPTER VI, SECTION 6, OR CONCERNS A COMPLAINT AGAINST A DIRECT MEMBER WHICH DIRECTLY RESULTS FROM, RELATES TO, OR AFFECTS PROFESSIONAL ACTIVITIES OF THE MEMBER COMPLANED AGAINST, OR

(3) THE COUNTY SOCIETY CONCERNED HAS REQUESTED THE BOARD TO ACT, HAVING SHOWN THAT THE MATTER COULD NOT BE HANDLED BETTER AT THE COUNTY SOCIETY LEVEL, AND THE BOARD HAS REFERRED SUCH CASE TO THIS COMMITTEE FOR INVESTIGATION AND RECOMMENDATION.

THIS COMMITTEE SHALL MAKE EVERY EFFORT TO CONSIDER THOSE CASES IN WHICH IT BELIEVES IT HAS BOTH THE AUTHORITY AND THE ABILITY TO BE OF SUBSTANTIAL HELP TO THE PARTIES CONCERNED. HOWEVER, THIS COMMITTEE SHALL ENDEAVOR TO AVOID TAKING THOSE CASES WHICH CAN MORE EFFECTIVELY OR APPROPRIATELY BE RESOLVED OTHERWISE AND THOSE CASES WHICH EITHER ALREADY ARE OR APPEAR LIKELY TO BE BEFORE THE STATE BOARD OF MEDICAL EXAMINERS OR THE COURTS.

COMPLAINTS MUST BE MADE IN WRITING AND SIGNED BY THE COMPLAINANT, ACCOMPANIED BY SUCH DOCUMENTARY EVIDENCE AS THE COMPLAINANT MAY DESIRE TO SUBMIT. IN THE EVENT THIS COMMITTEE DETERMINES NOT TO CONSIDER THE MATTER, IT SHALL PROMPTLY SO ADVISE THE COMPLAINANT IN WRITING AND RETURN THE COMPLAINT AND ANY EVIDENCE SUBMITTED. IF THIS COMMITTEE DECIDES TO TAKE JURISDICTION OF THE MATTER, IT SHALL PROMPTLY PROVIDE A COPY OF THE COMPLAINT, TOGETHER WITH ANY DOCUMENTARY EVIDENCE SUBMITTED, TO THE DEFENDANT. THE DEFENDANT, IN A WRITTEN AND SIGNED STATEMENT, MAY PRESENT A DEFENSE, TOGETHER WITH ANY APPROPRIATE EVIDENCE. FAILURE TO SUBMIT SUCH STATEMENT OF DEFENSE WITHIN THIRTY (30) DAYS FROM THE DATE OF RECEIPT OF THE COMPLAINT AND A NOTICE OF THIS PROVISION, WITHOUT GOOD CAUSE SHOWN, SHALL BE CONSTRUED AS AN ADMISSION OF THE CHARGE MADE IN THE COMPLAINT.

THIS COMMITTEE SHALL MAKE EVERY EFFORT TO CONDUCT A THOROUGH INVESTIGATION SO THAT ALL OF THE FACTS REQUIRED TO ARRIVE AT A CORRECT AND JUST RESULT ARE DEVELOPED. THIS COMMITTEE MAY PROVIDE FOR A HEARING UNDER SUCH CONDITIONS AS IT DEEMS APPROPRIATE, AT WHICH THE DEFENDANT AND COMPLAINANT SHALL BE INVITED TO APPEAR, IN THOSE CASES WHERE THIS COMMITTEE BELIEVES THAT A HEARING WOULD BE HELPFUL TO IT IN ARRIVING AT A CORRECT DECISION.

THIS COMMITTEE SHALL THEN MAKE ONE OF THE FOLLOWING RECOMMENDATIONS TO THE BOARD:

(1) THAT THE DEFENDANT IS INNOCENT OF THE CHARGE OR THE CHARGE IS NOT A WRONG, AND THAT NO FURTHER ACTION BE TAKEN, OR

(2) THAT THE DEFENDANT IS GUILTY OF THE CHARGE; THAT THE CHARGE IS A WRONG, AND THAT THE DEFENDANT SHOULD BE REPRIMANDED, CENSURED, SUSPENDED FOR A DEFINITE TIME, OR EXPELLED FROM THE ASSOCIATION, OR THE COMMITTEE MAY RECOMMEND OTHER APPROPRIATE ACTION.

(J) PROFESSIONAL LIABILITY:—THE FUNCTION OF THE COMMITTEE ON PROFESSIONAL LIABILITY IS TO REPRES-

ENT THE ASSOCIATION ON ALL QUESTIONS CONCERNING PROFESSIONAL LIABILITY, INCLUDING ESTABLISHING RELATIONSHIPS WITH INSURERS, THE BAR, THE LEGISLATURE, AND THE PUBLIC FOR THE PURPOSE OF REDUCING PROFESSIONAL LIABILITY RISK OR LOSS. THE COMMITTEE WILL WORK WITH THE LEGISLATIVE COMMITTEE FOR THE INTRODUCTION OF APPROPRIATE LEGISLATION TO ALLEVIATE PROBLEMS IN THIS AREA.

(K) SCIENTIFIC AFFAIRS:—THE FUNCTIONS OF THE COMMITTEE ON SCIENTIFIC AFFAIRS ARE TO (A) ADVISE ON SUBSTANTIAL AND PROMISING DEVELOPMENTS IN THE SCIENTIFIC ASPECTS OF MEDICINE AND BIOMEDICAL RESEARCH THAT WARRANT PUBLIC ATTENTION; (B) ADVISE ON PROFESSIONAL AND PUBLIC INFORMATION ACTIVITIES THAT MIGHT BE UNDERTAKEN IN THE FIELD OF SCIENTIFIC MEDICINE; (C) ASSIST IN THE PREPARATION OF POLICY POSITIONS ON SCIENTIFIC ISSUES RAISED BY THE PUBLIC MEDIA; AND (D) ADVISE ON POLICY POSITIONS ON ASPECTS OF GOVERNMENT SUPPORT, ENVIRONMENTAL AFFAIRS, INVOLVEMENT IN OR CONTROL OF BIOMEDICAL RESEARCH.

Adopted
April 27, 1985

Reference Committee on Resolutions

Report of the Reference Committee on Resolutions as deleted, amended or as otherwise disposed of, was adopted with the following actions taken on motions regularly made and carried:

Resolution 1-85
Subject: Future of ARIZONA MEDICINE

Whereas, The Publishing Committee, after careful consideration of all of the options available to the Arizona Medical Association, took a poll of its members regarding the future of *Arizona Medicine;* and

Whereas, The overwhelming consensus was to fuse *Arizona Medicine* with *The Western Journal of Medicine*, enabling ArMA members to receive *The Western Journal* with, at a minimum, an eight-page *Arizona Medicine* insert monthly at a cost of $5.00 per member, compared to the anticipated cost of $40.00 per member to continue to publish *Arizona Medicine* as a distinct journal; now, therefore, be it

Resolved, That *Arizona Medicine* cease publication in its present form and be fused within *The Western Journal of Medicine* as a special Arizona Edition, with the cost to ArMA members being $5.00 per year compared to the anticipated cost of $40.00 per year to continue to publish *Arizona Medicine* in its present form; and be it further

Resolved, That a specific socio-economic type journal named *Arizona Medicine* be developed so as to inform our members on these issues.

Adopted
April 27, 1985

Resolution 2-85
Subject: Continuation of ARIZONA MEDICINE

Whereas, The actual cost of producing *Arizona Medicine* over the past five years has consistently exceeded the non-dues revenue by substantial amounts; and

Whereas, Many attempts have been made to reduce the cost of producing *Arizona Medicine* with very little effect; and

Whereas, Many attempts have been made to increase both national and local advertising revenue but to no avail; and

Whereas, The Publishing Committee has attempted to find outside funding in support of *Arizona Medicine* with no success; now, therefore, be it

Resolved, That a mandatory annual subscription price of $40.00 per member be set. Such subscription rate to be in addition to the regular dues structure; and, be it further

Resolved, That, should this resolution not be adopted a should Resolution No. 1-85 not be adopted, *Arizona Medici* would cease to be published.

Not adopted
April 27, 1985

Resolution 3-85
Subject: Smoke Free Hospital Environment
Withdrawn by Introducer

Resolution 4-85
Subject: Smoke Free Hospital Environment

Whereas, A growing body of evidence indicates that inv luntary smoking may pose a health hazard to the gene population. Certain groups of patients who often find the selves in hospitals (e.g., those with chronic cardiovascular pulmonary disease) are especially susceptible to the ill effe of secondhand tobacco smoke; and

Whereas, Tobacco smoking in hospitals undermines air qu ity, harms smokers and nonsmokers, and increases fire dan and litter; and

Whereas, The Surgeon General and the American Medi Association have endorsed "A Smoke-Free Society by the Y 2000;" and

Whereas, The Arizona Lung Association, the Arizona Th racic Society, the Arizona State Dental Association, the Ar ona Nurses Association, the Arizona State Council of Hospi Pharmacists, the Arizona Society for Respiratory Therapy, a the Arizona Coalition for Cost Effective Quality Health C have expressed support for this concept; and

Whereas, Physicians and other health professionals are t most qualified to serve as role models and educators in t effort; therefore, be it

Resolved, That the Arizona Medical Association encoura Arizona hospitals, individually and through the Arizona Hos tal Association, to ban smoking in hospitals by all st employees, visitors, and patients, except for those inpatie who may be allowed to smoke by doctor's order only in sp cially designed areas which minimize the possible effects sidestream smoke.

Adopted
April 27, 1985

Resolution 5-85
Subject: 1986 Calendar Year Budget of Income and Expen

Resolved, That the following Budget of Income and Expen tures for the calendar year 1986 be adopted:

	Income	Expenditures	
General Dept.	$ 1,087,595.00	$ 928,837.00	$ 158,838.0
Committee Department	18,500.00	130,000.00	(111,500.0
B & L Fund Committee	9,000.00	9,000.00	-0-
Total	$ 1,115.095.00	$ 1,067.837.00	$ 47,258.0

; and be it further

Resolved, That the annual dues of the Arizona Medical As ciation, Inc. be $350.00 for Active members, with $345.00 goi to General Department Budget and $5.00 going to the Jour Subscription Budget; and be it further

Resolved, That the Service member dues be $87.50, w $82.50 going to the General Department Budget and $5 going to the Journal Subscription Budget; and be it furth

solved, That the Intern or Resident Active member dues $35.00, with $30.00 going to the General Department dget and $5.00 going to the Journal Subscription Budget; d be it further

solved, That a $50.00 rebate on 1986 dues be given to izona Medical Association members who recruit one or ore new members in the Arizona Medical Association (i.e., ere will be no dues increase in 1986 for those members who e acknowledged as recruiters by the new Arizona Medical sociation when he/she pays dues).

Adopted
April 27, 1985

solution 6-85
bject: Arizona Department of Health Services' Public Health genda

hereas, In "A Public Health Agenda for Arizona: Objecves for the Year 2000," produced by the Arizona Department Health Services, January 1985, objective number 29 would ncourage the development of and utilization of alternate alth care delivery systems, including health maintenance ganizations and preferred provider organizations to proote competition;" and

hereas, The cost differences in alternate health care delivy systems may be due to a different type of care delivered by ternative health care providers who may not be physicians; id

hereas, In a free society, it is inappropriate for government encourage or support one form of health care delivery over nother; therefore be it

esolved, That the Arizona Medical Association wishes to mmend the Arizona Department of Health Services for its terest in the health care economics of the general public; nd be it further

esolved, That the Arizona Department of Health Services ould recognize the value of the excellent level of health care ovided by private medical practitioners of the State; and be further

esolved, That the Arizona Department of Health Services ot encourage development of medical systems which result a punitive burden on those patients desirous of private fee r service medical care; and be it further

esolved, That Objective Number 29 in the Arizona Depart-ent of Health Services publication "A Public Health Agenda r Arizona: Objectives for the Year 2000" should be revised, affirm the above Resolveds; and be it further

esolved, That this resolution be distributed to appropriate overnment agencies.

Adopted
April 27, 1985

esolution 7-85
ubject: Obesity as a Disease

Whereas, Dorland's Medical Dictionary[1] defines **Disease** as: definite morbid process having a characteristic train of mptoms; it may affect the whole body or any of its parts, and s etiology, pathology, and prognosis may be known or nknown; and

Whereas, Obesity is a process of overconsumption of calo-es in relation to energy expenditure[2] resulting in hypertro-hic and hyperplastic fat cells;[3] and

Whereas, The endocrine and metabolic changes of excess onsumption of calories and resulting fat tissue lead to mal-unction of body organs and tissues;[4,5] and

Whereas, The degree of obesity can be measured as the xcess weight over desirable weight or by calculation of the ody Mass Index (BMI), (Weight in kilograms divided by eight in meters squared); and

Whereas, The health risk factors associated with obesity, i.e., Cardiovascular Disease,[6] Hypertension,[7] Diabetes Mellitus, Type II,[8] Cancer,[9] Anesthesia,[10] and major abdominal and thoracic surgery,[11] are directly proportional to excess weight or Body Mass Index; and

Whereas, The diseases to which obesity predisposes are among the major causes of escalating care costs;[12] and

Whereas, The 1985 National Insitutes of Health (N.I.H.) Consensus Development Conference on Health Implications of Obesity declared that obesity is a distinct disease entity; and

Whereas, This same conference report confirms that there is a clear association between obesity and decreased longevity and that the greater the weight the higher the mortality; and

Whereas, The above N.I.H. report confirms that obesity is clearly associated with Coronary Artery Heart Disease, Hypertension, adult onset Diabetes Mellitus, Hypercholesterolemia and increased risks for cancers of the colon, rectum and prostate in men and cancers of the gallbladder, biliary passages, breast, cervix, uterus, ovaries and endometrium in women; and

Whereas, The same N.I.H. report stated that individuals who eliminate excess body fat reduce to normal their risks of adverse health effects; and

Whereas, This report advised that treatment of the disease of obesity should be under physician supervision; and

Whereas, Obesity can now be treated effectively by medical,[13] and, if necessary, surgical methods;[14] now, therefore, be it

Resolved, That the Arizona Medical Association recognize obesity as a disease entity and encourage the American Medical Association to do likewise.

Referred to
Committee on Scientific Affairs
April 27, 1985

Resolution 8-85
Subject: Solving the Medical Malpractice Crisis

Whereas, The cost of medical malpractice claims in Arizona has escalated logarithmically during the past five years, far outpacing the increases in cost of living; and

Whereas, Malpractice awards are doubling every year, despite intensive risk management efforts; and

Whereas, Medical malpractice premium rates are expected to escalate over 50% during the next two years; and

Whereas, Product liability awards are also at the multimillion dollar level, and

Whereas, These awards are greatly out of proportion to the monies necessary to compensate victims; and

Whereas, The victims frequently receive only 20% to 40% of the award money; and

Whereas, The increasingly high cost of malpractice insurance contributes significantly to the inflation of health care costs; and

Whereas, The threat of malpractice claims causes physicians to practice costly "defensive medicine;" and

Whereas, There are ever-increasing demands from governmental and public sectors for more cost-effective medical care; and

Whereas, Failure to solve this problem will ultimately erode the quality of medical care; and

Whereas, The solution to this problem is complex and requires careful study by many sectors of the medical and non-medical community; now therefore, be it

Resolved, That the Arizona Medical Association take whatever actions are appropriate so that a select committee shall be appointed to find a solution to the serious malpractice insurance situation in Arizona. The committee should include representatives from the Arizona Medical Association, the Arizona Osteopathic Association, the Arizona Hospital Association, the Arizona State Bar Association, medical service and medical product liability insurance companies, as well as con-

sumer representatives. Organizations interested in having representatives on this committee should be willing to fund the committee's activities.

Adopted
April 27, 1985

Resolution 9-85
Subject: Promotion of Effective and Economical Health Care
Whereas, The availability of e*conomical* health care is in the best interest of all Arizonans; and
Whereas, Physicians are the best qualified to *judge* cost-cutting methods that do not sacrifice effective medical care; therefore, be it
Resolved, That the Arizona Medical Association promote the following guidelines which attempt to achieve effective and econominal health care:

I. Health Insurance

1. Encourage insurers' and patients' sharing of cost through the use of deductibles and co-payments.
2. Support third party rebates to individuals and groups demonstrating healthy lifestyles.
3. Protect a pluralistic approach to third party reimbursement to foster a competitive market in health care.
4. Provide peer review mechanisms (second opinions, pre-hospitalization authorization, concurrent review, etc.) to insure that reimbursement is for medically necessary and cost-effective services.
5. Urge third party payors to cover preventative services when cost-effectiveness has been proven (e.g., childhood immunizations).
6. Encourage removal of legislatively mandated coverage to encourage consumer choice as to what services and providers they want and at what minimal standard.
7. Seek expansion of traditional in-patient care coverage to include intermediate levels of care, out-patient services, and home health care services when these are true substitutes for acute in-patient care, while maintaining incentives to out-patient surgery.

II. Federal and State Government

1. Seek changes in federal and state legislation to reduce first dollar coverage.
2. Recommend and aid in the demonstration of cost-effectiveness of new regulations (cost-benefit analysis).
3. Urge funding of disease prevention programs of proven efficiency.
4. Discourage cost-shifting by government to private sector (pay fair share).
5. Support the legislative mandate (UB82) to establish a data base on hospital services and expand it to provide information on physician and medical services which will analyze variations in costs of health care delivery in relation to outcomes.
6. Assist government efforts to provide economic incentives for physicians/hospitals to practice cost-effective health care, for example, Winnberg on variation in physician practice habits.
7. Identify and protect our qualified and credentialed institutions that contribute to new knowledge, maintain efficient and economical medical methods and provide Arizona with new practitioners, scientists and teachers.
8. Establish an ongoing legislative-physician leadership task force to confer on ongoing problems (e.g., malpractice and the future of AHCCCS) and aid in effecting Arizona legislation.

III. Medical Liability

1. Support an Arizona consitutional amendment to cap non-economic awards (e.g., awards for pain and suffering, mental anguish, loss of consortium) in malpractice actions.
2. Seek moderation of contingency fees by a sliding scale and by excluding punitive damages from their calculation through a constitutional amendment, if necessary.
3. Support statutory guidelines for withdrawal of life support measures for the terminally ill.
4. Obtain mandatory periodic payment of substantial dai ages when it results in monetary savings.
5. Seek a specific Assistant Attorney General permanen assigned to BOMEX.
6. Urge reduction of the statute of limitations relating malpractice actions.
7. Strengthen grievance mechanisms within ArMA.
8. Expand activities to rehabilitate or assist impaire physicians.
9. Effectively monitor and enforce appropriate care l physicians.

IV. Hospitals

1. Periodically, physicians should review selected patien hospital bills and encourage hospital administration and tru tees to do so also.
2. Provide physicians with hospital price information.
3. Periodically review all hospital protocols and physiciar standing orders.
4. Encourage physicians to justify studies, consultations, ar procedures with appropriate data and reasons in a writte chart statement.
5. Educate physicians in training to review hospital bills their patients.
6. Urge hospitals to educate patients, via specific writte advice, in how to use the institution effectively and econom cally, at the time of pre-admission notification.
7. Establish economic grand rounds using present AM program as a guide.
8. Disseminate the new AMA guidelines and urge that edu cational programs be established for (a) efficient ordering respiratory care services, (b) efficient ordering of antibiot therapy, (c) efficient management of critically ill patients, (prevention of adverse drug effects, (e) appropriate use imaging, and encourage further such national study.
9. Provide appropriate, reasonable and prudent care to th terminally ill, but also strive for alternatives to prolonged ho pitalization and high technology services for those individua who are hopelessly ill.

V. Physician Education

1. Add a self-instructional test booklet on effective and ecc nomical medical care to the licensing/relicensing process fc physicians through a cooperative effort with BOMEX.
2. Sponsor seminars in effective and economical medic care to senior medical students, residents, teachers and pract tioners, within the existing structure of grand rounds, dean conferences and hospital conferences, in addition to state an county medical society sponsorship of conferences.
3. Include a section on effective and economical care an specifics on cost-containment in the existing Primary Car Medicine (PCM) course given to U of A medical students.
4. Use public relations skills to widely disseminate, withi the medical community, the idea that effective and econom cal medical care equals quality medical care.

VI Consumer Education

1. Educate citizens to live a healthy lifestyle, specificall employing economic incentives such as salary bonuses fc such accomplishments as weight loss *and* media disseminatio of adverse consequences, such as the effects of cigarette smok ing on the newborn.
2. Encourage citizen involvement in community efforts t promote health and prevent disease (e.g., mandated seatbelt taxes on tobacco and alcohol, etc.).
3. Inform patients about the advantages and limitations c programs available from competitive health care provider where adequate data is available.
4. Assist patients in understanding the difference betwee reasonable expectations and the presumed miracles of mod ern medicine.
5. Educate patients to cost savings available through deduct ibles and use of co-payments and to the advantages of pur

sing health insurance.
Demonstrate to consumers, using statistical data availa-
the true factors involved in increased medical costs.

Notch Group

Recognize the health care needs of the near poor, the nsured and the under-insured who cannot afford care ause of catastrophic illness, major economic events or arbi-ily set poverty definitions.
. Recognize the need to define an accepted standard of lth care.
. Promote a financing mechanism for notch group care t pools resources to provide basic catastrophic coverage ough institutional providers (bed tax), professional provid-(reduced rates), insurers (pooled premiums), business (pre-im add-on), consumers (mandatory IRA for health) and ernment (statutory requirements).
. Dedicate punitive awards in malpractice actions to a ch group health insurance fund.

Adopted
April 27, 1985

solution 10-85
ject: Program for Long Term Care in Arizona
ereas, The funding and provision of Long Term Care ser-es in Arizona is an important health care issue for all its zens, but especially the middle income and indigent popu-on; and
ereas, The magnitude of the problem is emphasized by fact that we are now spending $200 million a year for ,000 elderly and otherwise disabled, and that, by the year 00, we will be spending $1.6 billion to care for 225,000 peo-; and
ereas, Long Term Care in Arizona up to now has been vided mainly by families, the counties, and, to a lesser tent, by state and federal government, and such care has en fragmented, difficult to find, and delivered under an ay of rules and eligibilities; and
hereas, A study of Long Term Care in Arizona, done at the quest of the Governor and funded by The Flinn Foundation, s completed in July 1984 by the Pritzlaff Commission, the port of which contains a detailed analysis of the problems cing the state and also makes 20 recommendations for quential steps in a suggested plan of action for the legisla-re; now, therefore, be it
solved, That the Arizona Medical Association endorses e plan for a unified state program for Long Term Care which ould include the concepts of:
(1) Assessment and case management on a continuing basis;
(2) Increased utilization of home care, day care centers and ster homes rather than an increasing dependence on institu-nal services;
(3) Recognition of the importance of family care givers and lunteers by providing economic incentives to them;
(4) Participation in Title XIX (Medicaid) programs to use as uch of these funds as possible for non-institutional services rough the use of waivers;
(5) The encouragement of private payment mechanisms nsurance, use of home equity, IRA's, Life Care Communities, c.); and, be it further
esolved, That the Arizona Medical Association endorses e concept of a new separate state unit for Long Term Care, hich would establish regulations for Long Term Care, as well receive and distribute all public monies for its function; and, e it further
esolved, That the Arizona Medical Association endorses e concept that Arizona's counties should retain the responsi-ility for the operation of the Long Term Care program within s own boundaries, and may either deliver services directly or ntract for these services; and, be it further
Resolved, That the Arizona Medical Association recommends to the Arizona Legislature the prompt consideration of the Pritzlaff Commission report and urges that the initial steps necessary for a Long Term Care program in Arizona begin without delay.

Adopted
April 27, 1985

Resolution 11-85
Subject: Promotion of Effective and Economical Health Care
Whereas, Health care costs continue to escalate above the consumer index for all services; and
Whereas, Efforts are being made by government and private third parties to control these costs through monitoring and the peer review process; now, therefore, be it
Resolved, That the Arizona Medical Association supports establishment of a task force to determine the parameters and create a data base which can set the standards for study of data provided by third party payors, governmental health agencies and others that relies on surveillance of adverse outcomes, third party payor data from both inpatient and ambulatory care, and physician-based peer review.

Adopted
April 27, 1985

Resolution 12-85
Subject: Fee Freeze on Medicare Patients
Whereas, The Federal Government has selected the physician population dealing with the Medicare patients exclusively in a fee freeze action, which is inappropriate and discriminatory; and
Whereas, The American Association of Retired Persons officially has opposed continuation of the fee freeze on the premise that it will force physicians away from caring for the geriatric population; and
Whereas, This puts discriminatory financial pressure on physicians who care extensively for geriatric patients and encourages cost shifting of expenses to the non-Medicare patients in an individual practice; now, therefore, be it
Resolved, That the Arizona Medical Association oppose the continuation of the Federal Government's fee freeze on Medicare patients.

Adopted
April 27, 1985

Resolution 13-85
Subject: Expansion of Physical Therapy Training Program
Whereas, There exists in Arizona an acute shortage of physicial therapists adversely affecting patients' ability to receive such services; and
Whereas, This shortage has caused a marked increase in the cost of physical therapy services, adding to the overall cost of health care; and
Whereas, The only training program in Arizona at Northern Arizona University now graduates an inadequate number of physical therapists; now, therefore, be it
Resolved, That the Arizona Medical Association strongly urges the Arizona Board of Regents to act affirmatively to expand the physical therapy training program at Northern Arizona University.

Not Adopted
April 27, 1985

Resolution 14-85
Subject: Repayment of Loans
Whereas, An appreciable number of physicians have failed

to repay loans made to them during their medical training; and
Whereas, Failure to repay these loans severely decreased the amount of money available for current students in need of those funds; and
Whereas, Present efforts to obtain repayment of these loans appear to be ineffective; and
Whereas, Non-payment of prior student loans by presently practicing physicians has an extremely negative effect on the public image of the medical profession; now, therefore, be it
Resolved, That the Arizona Medical Association encourage the American Medical Association to investigate the matter of unrepaid loans obtained by physicians in their student and training years; and, be it further
Resolved, That the Arizona Medical Association develop an active, ongoing program to identify, counsel and help formulate plans to assist physicians to repay loans obtained during their medical training years; and be it further
Resolved, That a similar resolution be introduced to the House of Delegates of the American Medical Association.

Adopted
April 27, 1985

Resolution 15-85
Subject: Honorary Membership—The Arizona Medical Association, Inc.—Edward Jacobson, Esq.

It was moved and seconded and unanimously carried that Edward Jacobson, Esq. be named an Honorary Member of the Arizona Medical Association in recognition of his many y of service as Counsel to the Association.
Whereas, Edward Jacobson, Esq., for a period of 35 years, provided legal counsel to the Arizona Medical Associat Inc.; and
Whereas, Mr. Jacobson has, during those years, given ex guidance and advice to the officers and staff of the Associat and most willingly given of his time and efforts above beyond that normally expected from an attorney/client r tionship; and
Whereas, Mr. Jacobson has inspired the officers members of the Association, not only as a wise, kindly prudent counselor, but also as the embodiment, res ipsa lo tur, of a gentleman, true to himself, to his high calling an his fellow man; now, therefore, be it
Resolved, That the House of Delegates of the Arizona M cal Association go on record as commending Edward Jac son, Esq. for his contributions to this Association and medical profession in Arizona; and be it further
Resolved, That Edward Jacobson, Esq. be made an Hono Member of the Arizona Medical Association, Inc.

Adopted
April 27, 1985

There being no further business before the House Delegates,
Meeting adjourned Sine Die at 12:15 p.m.



Joan Baker accepts the presidential portrait of her husband, Dr. Earl J. Baker, from Dr. Henderson.



Louis J. Kettel, M.D., Dean of the U. of A. College of Medici accepts Arizona's AMA-ERF contribution from Mary Elea Holmes, Immediate Past-President, ArMA Auxiliary.

(Photo Credit: James Cowlin)



nediate Past-President, Earl J. Baker receives an appreciation plaque for his year of service to ArMA from President, y L. Henderson.
oto Credit: James Cowlin)



ArMPAC's rank as third in the nation in the amount of dollars contributed per member was recognized during ArMA's Annual Meeting. Presenting the recognition plaque to Dr. Baker was David B. Horner, M.D., member of the ArMPAC Board of Directors.
(Photo Credit: Eloise Clymer)



AMA President, Joseph F. Boyle, M.D., addressed ArMA's House of Delegates at the Association's 94th Annual Meeting.
(Photo Credit: Eloise Clymer)

ArMA Past-President Luncheon . . . a Time for Fellowship

(Photo Credit: Dermont W. Melick, M.D.)



John F. Kahle, M.D., Flagstaff, (1977) with ArMA Executive Vice President, Bruce E. Robinson.



Robert Carpenter with Dermont W. Melick, M.D., Phoenix, (1959), Clarence E. Yount, Jr., M.D., Prescott (1962), and Carlos C. Craig, M.D., Phoenix (1957)

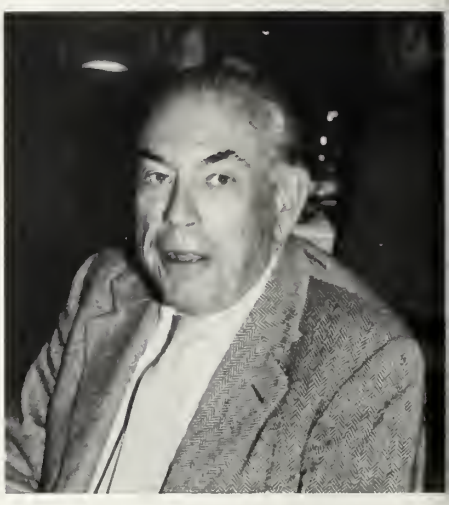


William E. Crisp, M.D.
Phoenix (1979)

(Photo Credit: Dermont W. Melick, M.D.)



Edward (Bud) Jacobson
ArMA's General Counsel



James E. O'Hare, M.D.
Tucson (1965)



John E. Oakley, M.D.
Prescott (1982)



Drs. William C. Scott (1975) and Philip Dew, (1973), Tucson

w Fifty Year Club members receive from President Gary L. Henderson, M.D., Tucson, a plaque recognizing eir many years of service to the people of Arizona.



rmont W. Melick, M.D., Phoenix, University of Pennsylva- School of Medicine, Arizona license—1936, ArMA esident—1959



Samuel I. Rothman, M.D.
Medizinische Fakultat Der
Universitat Bern, Switzerland
Arizona license—1948



Marriner Merrill, M.D., Phoenix
Northwestern University
Arizona license—1938

(Photo Credit: James Cowlin)



Paul A. Johnson, M.D.
University of Minnesota
School of Medicine
Arizona license—1946



E. Henry Running, M.D., Phoenix
Rush Medical College
Arizona license—1936



Morris E. Stern, M.D., Phoenix
Indiana University School of Medicine
Arizona license—1947



L. D. Beck, M.D., Phoenix
University of Oklahoma
College of Medicine
Arizona license—1936



Harry E. Thompson, M.D., Tucson
Northwestern University Medical School
Arizona license—1935
ArMA President—1955

Also elected to Fifty Year Club membership, but unable to attend the dinner were: Floyd B. Bralliar, M.D., Wickenburg, University of Tennessee College of Medicine, Arizona license—1936; Joseph C. Ehrlich, M.D., Phoenix, Rush Medical College, Arizona license—1946; Anthony G. Salvatore, University of Chicago Medical School, Arizona license—1951.

ArMA Reports

The minutes in this section have bee condensed. A complete copy will b sent to any member requesting then

BOARD OF DIRECTORS

A meeting of the Board of Directors c the Arizona Medical Association, Inc. wa held in Canyon Rooms A and D of th Stouffer Cottonwoods Resort, 6160 Nort Scottsdale Road, Scottsdale, Arizona, o Friday, April 26, 1985.

Dr. Mangold addressed the Board rela tive to ArMPAC being behind in thi year's membership, but advised that statewide mailing is being planned in a attempt to get a commitment from a physicians for this important activity.

It was moved and carried to approv the following 1985-86 meeting schedul for the Board of Directors:

August 24, 1985, Saturday, 10:00 a.m., Phoenix
November 23, 1985, Saturday, 10:00 a.m., Tucson
January 25, 1986, Saturday, 10:00 a.m. Phoenix
March 15, 1986, Saturday, 10:00 a.m., Phoenix
June 6, 1986, Friday, 8:00 a.m., Tucson (Annual Meeting)
June 7, 1986, Saturday, 12:00 Noon, Tucson (Annual Meeting)

Mr. Robinson reported on the 3/1/8 and 4/12/85 meetings of the Arizona Ho pital Association Board of Director which dealt mainly with the issues (ArHA's membership and budget and a interest in working with ArMA to assist i the development of a payment progra for physicians/hospitals yet unpaid b AHCCCS.

Dr. Kettel, Dean of the U of A Colleg of Medicine, updated the members o various activities at the College, i.e., prob lems being faced with the animal protec tion group, the admission process, th crisis with student loan funding, and th need to encourage physicians to repa those loans previously received by the to enable such funding to continue. Th last item generated much discussio among the members of the Board and was agreed that Dr. Sattenspiel, as Chai man of the Arizona Delegation, prepar for introduction at the 10.00 a.m. ArM House of Delegates meeting a resolutio recommending that the AMA develop a active program to identify physicians wh have loans, yet unpaid, and to assist i working out a repayment system fo them. Additionally, the Board unanim ously expressed its appreciation to D

ttel for his ongoing efforts at all levels the medical profession.

t was moved and carried to ratify and prove the minutes of the Executive mmittee meeting held on March 22, 35.

During the review of the Executive mmittee minutes, extensive discussion s held on the subject of physical thera-ts, their shortage and their cost, and . William Scott reported that one rea-n for the shortage of physical therapists s that there was only one program thin the State of Arizona, at Northern izona University, which would require ditional funding on order to enlarge its mber of students. It was moved and rried that the Arizona Medical Associa-n advise the Arizona Board of Regents the acute shortage of physical thera-sts, which is affecting patient care in izona, and recommend the expansion the existing program at Northern Ariz-a University. It was agreed that Dr. ott prepare, for submission by the ard of Directors to the House of Dele-tes at its 10:00 a.m. First General Ses-on, a resolution setting forth the intent the foregoing motion.

The Board received for information the nancial Statement for period ending 31/85, and the 1984 Audit Report by enry and Horne, Certified Public ccountants, reviewed and discussed rious matters on the agenda for the ouse of Delegates meeting; received an al report from Mr. Older on the current atus of this legislative session; and was prised of the several new programs hich had been developed for the mem-ership receiving a copy of the new bro-hure, "Unlocking a Source of hysician/Citizen Support."

EXECUTIVE COMMITTEE

A meeting of the Executive Committee f the Arizona Medical Association, Inc. as held in Cottonwoods Ballroom 1 of he Stouffer Cottonwoods Resort, 6160 North Scottsdale Road, Scottsdale, Ariz-na, on Friday, April 26, 1985.

The committee received, for its infor-nation, the March 25th demographic omparisons between Scottsdale, Ariz-na and Jacksonville, Florida, prepared y Dr. Collins in response to earlier dis-ussions regarding the Mayo Clinic, ogether with an update from him on the Clinic's activities to obtain zoning hanges, building permits, etc.

Chic Older reported on legislation cur-ently being considered which could alter he funding of the AHCCCS program and he attempts being made by AHCCCS to work out payment problems, i.e., a hospi-ality suite during the annual meeting to discuss such problems one-to-one with physicians; a series of provider conferen-es to assist with computer and billing nechanisms; and other seminars relating o procedures. Mr. Robinson reported on consideration being given to a joint effort by ArMA and ArHA to work with AHCCCS administration to work out a payment program for those physicians yet unpaid.

It was moved and carried to approve the following dates for meetings of the Executive Committee during 1985-86.

May 24, 1985, Friday, 6:30 p. m., Phoenix
July 12, 1985, Friday, 6:30 p.m., Tucson
August 23, 1985, Friday, 6:30 p.m., Phoenix
September 27, 1985, Friday, 6:30 p.m., Tucson
October 18, 1985, Friday, 6:30 p.m., Phoenix
November 23, 1985, Saturday, 8:00 a.m., Tucson
December 20, 1985, Friday 6:30 p.m., Phoenix
January 24, 1986, Friday, 6:30 p.m., Phoenix
February 21, 1986, Friday, 6:30 p.m., Tucson
March 14, 1986, Friday, 6:30 p.m., Phoenix
April 25, 1986, Friday 6:30 p.m., Phoenix
June 6, 1986, Friday, 6:00 a.m., Tucson (Annual Meeting)

W. Scott Chisholm, M.D., briefly addressed the committee with comments in opposition to the adoption of Resolution No. A-3-85, "Designation of Alternate Delegates to the American Medical Association," stating that he believed ArMA would, if the resolution were adopted, lose the opportunity of having two other physicians actively involved at the AMA level, since the President and President-Elect already attend AMA meetings in their respective capacities.

The committee received for information an update on BCIBS Office Incentive Program and Justice Feldman's April 24, 1985 opinion rendered in *Summerfield vs. Superior Court of Arizona, et. al,* making Arizona the 33rd state to allow a wrongful death action for a viable fetus.

BOARD OF DIRECTORS

A meeting of the Board of Directors of the Arizona Medical Association, Inc. was held in Canyon Room D of the Stouffer Cottonwoods Resort, 6160 North Scottsdale Road, Scottsdale, Arizona, on Saturday April 27, 1985.

By virtue of the adoption of Resolution No. A-6-85, calling for a reorganization of the Association's committee structure, the Board considered the President's recommendations for appointment to the new committees, made suggestions as to deletions and additions and, following discussion, it was moved and carried to confirm the following committee appointments:

Committee on Articles of Incorporation and Bylaws

Charles E. Henderson, M.D.	1985-86
Chairman	
Georgetta C. Bidwell, M.D.	1985-88
Richard L. Collins, M.D.	1984-86
Secretary	
John T. Clymer, M.D.	1985-88
Philip E. Dew, M.D.	1985-88
Gary L. Henderson, M.D.	1985-86
President	
Paul B. Jarrett, M.D.	1985-87
John K. Kerr, M.D.	1985-87
James Liguori, M.D.	1985-87
Theodore L. Mobley, M.D.	1985-87
William G. Payne, M.D.	1985-86
Neopito L. Robles, M.D.	1985-87
Edward Sattenspiel, M.D.	1985-86
Houshang Semino, M.D.	1985-86
Neil O. Ward, M.D.	1985-86
President-Elect	

Committee on Finance

Mark Ivey, Jr., M.D.	1985-87
Chairman (Treasurer - Specified)	
Richard L. Collins, M.D.	1984-86
Secretary	
Richard L. Dexter, M.D.	1985-88
Gary L. Henderson, M.D.	1985-86
President	
John W. Kennedy, M.D.	1985-88
James B. Klein, M.D.	1985-88
Clyde W. Kurtz, M.D.	1985-87
Christopher T. Maloney, M.D.	1985-87
Neopito L. Robles, M.D.	1985-87
Seymour I. Shapiro, M.D.	1985-86
Retired	
Walter K. Sosey, M.D.	1985-86
Harold C. Tretbar, M.D.	1985-86
Neil O. Ward, M.D.	1985-86
President-Elect	
Susan M. Wishnok, M.D.	1985-86

Committee on Legislative and Governmental Affairs

Neopito L. Robles, M.D.	1985-86
Chairman	
Earl J. Baker, M.D.	1985-88
Richard L. Collins, M.D.	1984-86
Secretary	
Kenneth A. Dregseth, M.D.	1985-88
Daniel T. Field, M.D.	1985-88
Gary L. Henderson, M.D.	1985-86
President	
Louis J. Kettel, M.D.	1985-88
William J. Mangold, Jr., M.D.	1985-88
James R. Meader, Jr., M.D.	1985-87
Arthur D. Nelson, M.D.	1985-87
William N. Neubauer, M.D.	1985-87
Edward Sattenspiel, M.D.	1985-87
Marvin C. Schneider, M.D.	1985-86
Jeffrey A. Singer, M.D.	1985-86
Walter K. Sosey, M.D.	1985-86
Perry Stearns, M.D.	1985-86
Neil O. Ward, M.D.	1985-86
President-Elect	
Elizabeth Wilkinson, M.D.	1985-86

Committee on Long Range Planning

Robert S. Hirsch, M.D.	1985-86
Chairman (Vice President - Specified)	
Robert A. Baratz, M.D.	1985-88

Robert J. Brooks, M.D.	1985-88
John C. Bull, Jr., M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Paddy R. Garver, M.D.	1985-88
Alan L. Gordon, M.D.	1985-88
Joseph W. Hanss, Jr., M.D.	1985-87
Gary L. Henderson, M.D. President	1985-86
Philip E. Keen, M.D.	1985-87
Clyde W. Kurtz, M.D.	1985-87
Christopher T. Maloney, M.D.	1985-87
H. Belton P. Meyer, M.D.	1985-86
John E. Oakley, M.D.	1985-86
Wilford M. Potter, M.D.	1985-87
Neopito L. Robles, M.D.	1985-86
Ernesto B. Rodis, M.D.	1985-86
Neil O. Ward, M.D. President-Elect	1985-86

Committee on Maternal and Child Health Care

John V. Kelly, M.D. Chairman	1985-86
N. Burton Attico, M.D.	1985-88
James F. Blute, III, M.D.	1985-88
Albert Bostrom, M.D.	1985-88
Helen L. Britton, M.D.	1985-88
William K. Carlile, Jr., M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Kevin H. Concannon, M.D.	1985-87
R. Michael Cummins, M.D.	1985-87
William J. Daily, M.D.	1985-87
John P. Elliott, M.D.	1985-87
Gary L. Henderson, M.D. President	1985-86
Ravi Koopot, M.D.	1985-86
H. Belton P. Meyer, M.D.	1985-86
William C. Scott, M.D.	1985-86
Lewis Shenker, M.D.	1985-86
Neil O. Ward, M.D. President-Elect	1985-86

Committee on Medical Education

Robert M. Anderson, M.D. Chairman	1985-86
Barbara A. Allgood, M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Thomas F. Disney, M.D.	1985-88
Arthur V. Dudley, Jr., M.D.	1985-88
Nathan W. Goff, Jr., M.D.	1985-88
Samuel Goldfein, M.D.	1985-87
Robert E. Hastings, Jr., M.D	1985-87
Gary L. Henderson, M.D. President	1985-86
Stuart I. Holtzman, M.D.	1985-87
William James Howard, M.D.	1985-87
Philip Levy, M.D.	1985-87
Alex Newman, M.D.	1985-86
Kent L. Pomeroy, M.D.	1985-86
Robert A. Price, M.D.	1985-86
Ashton B. Taylor, M.D.	1985-86
Charles A. Trahern, M.D.	1985-86
Neil O. Ward, M.D. President-Elect	1985-86

Committee on Medical Service

Herbert L. Winogard, M.D. Chairman	1985-86
William G. Chaffee, Jr., M.D.	1985-88
Sam C. Colachis, Jr., M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Patrick N. Connell, M.D.	1985-88
Jay S. Fleishman, M.D.	1985-88
Marilyn J. Heins, M.D.	1985-88
Gary L. Henderson, M.D. President	1985-86
John F. Kahle, M.D.	1985-87
F. C. Lepperd, Jr., M.D.	1985-87
Laurence M. Linkner, M.D.	1985-87
John E. Oakley, M.D.	1985-87
Jane M. Orient, M.D.	1985-87
Eric G. Ramsay, M.D.	1985-86
Sara S. Reynolds, M.D.	1985-86
Melvin D. Roberts, M.D.	1985-86
Michael V. Rock, M.D.	1985-86
Neil O. Ward. M.D. President-Elect	1985-86

Committee on Professional Affairs

Neil O. Ward, M.D. Chairman	1985-86
Earl J. Baker, M.D.	1985-88
Dennis W. Berry, M.D.	1985-88
Ronald L. Christ, M.D.	1985-88
H. Allan Collier, M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Donald L. Damstra, M.D.	1985-88
C. Truman Davis, M.D.	1985-87
Robert L. Fox, M.D.	1985-87
David E. Glow, M.D.	1985-87
Manuel M. Guerrero, III, M.D.	1985-87
Gary L. Henderson, M.D. President	1985-86
John J. Kelley, M.D.	1985-87
Marvin C. Schneider, M.D.	1985-86
Ronald P. Spark, M.D.	1985-86
Charles W. Swetnam, M.D.	1985-86

Committee on Professional Liability

Edward Sattenspiel, M.D. Chairman	1985-86
Lewis M. Brickler, D.O.	1985-88
Jack E. Brooks, M.D.	1985-88
John C. Bull, Jr., M.D.	1985-88
Richard L. Collins, M.D. Secretary	1984-86
Richard Dale, M.D.	1985-88
Richard O. Flynn, M.D.	1985-87
Gary L. Henderson, M.D. President	1985-86
Terrance W. Hull, M.D.	1985-87
Howard M. Kravetz, M.D.	1985-87
Paul T. Lenio, M.D.	1985-87
Richard T. McDonald, M.D.	1985-86
John G. McGregor, Jr., M.D.	1985-86
Wallace A. Reed, M.D.	1985-87
William C. Scott, M.D.	1985-87
Thomas E. Vorpahl, M.D.	1985-86
Neil O. Ward, M.D. President-Elect	1985-86
Mark Zachary, M.D.	1985-86

Committee on Scientific Affairs

Larry Spratling, M.D. Chairman	1985-86
Richard L. Collins, M.D. Secretary	1984-86
Murray M. DeArmond, M.D.	1985-88
Gary L. Henderson, M.D. President	1985-
Richard A. Ilka, M.D.	1985-
Suresh B. Katakkar, M.D.	1985-
Barry A. Kriegsfeld, M.D.	1985-
Donald B. Kunkel, M.D.	1985-
James R. Mouer, M.D.	1985-
Lloyd F. Novick, M.D.	1985-
Tom D. Powell, M.D.	1985-
Perry Stearns, M.D.	1985-
Burt S. Strug, M.D.	1985-
Jerome H. Targovnik, M.D.	1985-
Neil O. Ward, M.D. President-Elect	1985-
Robert E. Westfall, M.D.	1985-

The Board discussed at length the Cu rent Perspectives, "Curbstone Consult tions," held on Thursday, April 25t which was deemed to have been a tr mendous success and it was moved an carried that the Board of Directors exten to Robert M. Anderson, M.D. its apprec ation for his tremendous efforts in effec ing a very successful Current Perspective meeting on Thursday, April 25, 1985.

In view of the new AMA Delegate an Alternate Delegate granted to ArMA b virtue of its percentage of members als belonging to the AMA and the fact tha this could occur on an ongoing basis, th Board determined to suggest that th Committee on Articles of Incorporatio and Bylaws review the current Boar structure and develop some recommen dations for change to prevent the Boar from becoming unwieldy by virtue of th number of members.

The Board was apprised of the tota amount which had, thus far, been con tributed to ArMA's CPR Fund and, by rea son of their response to a need to b prepared for future unbudgeted crises, i was moved and carried that a future issu of *Medical Memos* carry a list of thos physicians who have thus far, contributed to ArMA's CPR Fund, with the Board' thanks and appreciation for this specia support.

AD HOC INDIGENT HEALTH CARE COMMITTEE OF THE COMMITTEE ON MEDICAL SERVICE

A meeting of the Ad Hoc Indigent Health Care Committee of the Committee on Medical Service, was held on Saturday, May 18, 1985, at 810 West Bethany Home Road, Phoenix.

Dr. Winograd explained the new format of the ArMA Committee structure which was adopted at the Annual Meeting. He said today's meeting was to finalize activities of the old committee which will now be incorporated into the Committee on Medical Service. Since this Ad Hoc Committee will no longer exist in its present format, Dr. Winograd thanked everyone for their participation.

Chic Older gave an update of activitity during the legislative session, related to AHCCCS. In summary, the program was extended for two more years.

Dr. Connell explained claim problems group of emergency physicians has d with AHCCCS. He felt after meeting h AHCCCS officials in a meeting anged by ArMA staff, a better under- nding of the problems has evolved. scussion next focused on the one-day riod before eligibility is determined hich legally the Counties are responsi- e for and which, in Maricopa County, ey are not paying. The question of nether or not this would be a basis for a it was discussed and it was agreed staff ould look into this.

A brief discussion followed on the fact at AHCCCS's contracts have a "hold- rmless" clause which MICA will not ver. Staff was asked to research this th MICA and determine if more com- unication to the ArMA membership is eeded.

Dr. Bostrom, AHCCCS Medical Direc- r, distributed a Medical Audit for Year 2 the AHCCCS Program and explained e various segments. He said this is a first d a lot of bugs will have to be worked ut. The audit will be used as a testing tool d when it has been decided who will ndle emergency services, AHCCCS will art meeting with that group. A medical rvices committee, composed of people roughout the state, will be meeting ext Tuesday to discuss programs. HCCCS also plans to consult with the /A College of Pharmacy regarding cost, uality, etc. of drugs. Dr. Bostrom said HCCCS was hopeful that next year they ill have an on-going Quality Assurance rogram.

The committee expressed concern ver the fact that eligibility standards are gid, and that the notch group is grow- g. Some solution to the problem this resents is becoming more important and was recommended the new Committee n Medical Service pursue this.

Future Meetings

he following institutions and organizations have een accredited for their continuing medical educa- on programs by the Arizona Medical Association nd/or the Accreditation Council for Continuing ledical Education.

Arizona Chapter, American Cancer Society
Arizona Medical Association
Arizona State Hospital, Phoenix
Arizona Thoracic Society/Arizona Lung Association
Walter O. Boswell Memorial Hospital, Sun City
Camelback Hospital, Phoenix
Desert Samaritan Hospital, Mesa
The Eye Foundation
Flagstaff Hospital & Medical Center of Northern Arizona
Good Samaritan Medical Center, Phoenix
Health Maintenance Associates, Phoenix
Maricopa Medical Center, Phoenix
Memorial Hospital of Phoenix
Mesa Lutheran Hospital, Mesa
Phoenix Baptist Hospital & Health Center
Phoenix Indian Medical Center
St. Joseph's Hospital & Medical Center, Phoenix
St. Joseph's Hospital, Tucson
St. Luke's Hospital & Medical Center, Phoenix
St. Mary's Hospital, Tucson
Scottsdale Memorial Hospital
Tucson Hospitals Medical Education Program, (THMEP) Tucson
University of Arizona College of Medicine, Tucson
Veterans Administration Medical Center, Phoenix
Veterans Administration Hospital, Prescott

The accredited institutions and organizations above produce a variety of continuing medical education programs. Each accredited institution and organization is responsible for designating which of these programs meet ArMA's requirements for Category 1 credit. Physicians who participate in programs which are designated Category 1 by accredited institutions will receive Category 1 credit toward the ArMA Certificate in CME and the AMA's Physician's Recognition Award.

JULY

Twenty-First Annual Day of Surgery and Medical Seminar
July 19, 20 & 21. Northern Arizona University, South Union Ballroom. To coincide with the Flagstaff Festival of the Arts. Sponsored by the Coconino County Medical Society. Contact: Bert McKinnon, M.D., 1350 Rim Drive, Flagstaff, Arizona 86002. Approved for Category 1 credits.

AUGUST

Rural Health Conference
August 1-3. Northern Arizona University. Sponsor/Cosponsor: U of A College of Medicine Rural Health Office. Contact: Irene Sassoon, Program Coordinator, Rural Health Office (602) 626-4469. Approved for Category 1 credit.

SEPTEMBER

Advances in Fetal Echocardiography '85
September 13. St. Joseph's Hospital and Medical Center, Phoenix, Arizona. Sponsored by St. Joseph's Hospital and Medical Center. Contact: Sharon Barger, M.P.H., Assistant Director, CME and Outreach Education (602) 285-3000. Approved for Category 1 CME credit.

OCTOBER

"Geriatric Medicine: A Look into the Future"
October 18-19. Fourteenth Annual Symposium of the Western Division of the American Geriatrics Society, Support Services Building of Boswell Memorial Hospital, 10401 Thunderbird Avenue, Sun City, Arizona. Sponsored by Western Division of the American Geriatrics Society. Contact: Marian Richardson, Executive Secretary, 13049 N. 103rd Avenue, Sun City, Arizona 85351, or call mornings between 8:00-11:00. (602) 977-1877. Approved for Category 1 CME credit.

Therapeutic Advances: New Choices for Medical Management of Disease.
October 25-26. Poco Diablo Resort, Sedona, Arizona. Sponsored by the Department of Internal Medicine and the Office of Continuing Medical Education, University of Arizona College of Medicine. Contact: Continuing Medical Education, Arizona Health Sciences Center, Tucson, Arizona, 85724. Lynne Mascarella, Program Coordinator (602) 626-6173. Approved for 9.5 CME credit hours.

MONTHLY OR WEEKLY

Shrine Medics Meeting
Second Tuesday of each month, Humana Hospital, Phoenix, 5:45 p.m. J. South Classroom. Sponsor: Shrine Medics. Contact: Robert C. Briggs, M.D., 5121 N. Central Ave., Phoenix, AZ 85012.

Pediatric Grand Rounds
Tuesday 7:30-8:30 a.m. in Phoenix:
1st Tues.—Phoenix Children's Hospital.
2nd Tues.—Maricopa Medical Center.
3rd Tues.—Phoenix Children's Hospital.
4th Tues.—St. Joseph's Hospital.
Sponsor: Phoenix Hospitals Affiliated Pediatric Program. Contact Paul S. Bergeson, M.D., P.O. Box 2989, Phoenix, Arizona 85062. Approved for 1 hour per session Category 1 credit.

Review of Forensic Pathology Current Case, Special Topics
Thursday, weekly, 11:00 a.m., 120 S. 6th Ave., Phoenix, AZ. Sponsor: Arizona Society of Pathologists. Contact: H.H. Karnitschnig, M.D., 120 S. 6th Ave., Phoenix, AZ. Approved for 1 hour per session Category 1 credit.

ARIZONA STATE HOSPITAL

2500 E. Van Buren, Phoenix, AZ 85008.
Contact: Martin B. Kassell, M.D.
Inservice Training
1st Friday, 1:00-2:00 p.m., Room 5, Education Building.
Psychiatric Case Presentation
2nd Friday, 1:00-2:00 p.m. Room 5, Education Building.
Clinical Pathological Conference
3rd Friday, 1:00-2:00 p.m., Room 5, Education Building
Open Topic
4th Friday, 1:00-2:00 p.m., Room 5, Education Building

BARROW NEUROLOGICAL INSTITUTE

Medical Education
Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, 350 W. Thomas Rd., Phoenix, AZ 85013. Sponsor: St. Joseph's Hospital & Medical Center.
Contact: John R. Green, M.D.
Approved for 1 hour Category 1 credit.
Neurology Teaching Conference
Tuesdays, 8:30-9:30 a.m., Eighth Floor Conf. Room.
Neurosurgical Morbidity Conference
Wednesdays, 8:15-9:15 a.m., on first and third and fifth, Eighth Floor Conference Room.

Neuro-Ophthalmology Conference
Mondays, 7:30 a.m. in 8th floor neurology conference room.
Spinal Injury Conference
Wednesdays, 8:15-9:15 a.m., on second and fourth weeks, in Neuropathology Conf. Rm.—a multidisciplinary review of admission by neurosurgeons, orthopedists, and rehabilitation specialists.
Neuropathology of Gross Specimens Conference
Thursday, 7:30-8:30 a.m. in the Morgue.
Neurology-Neurosurgical
Fridays, 8:00-9:00 a.m., First Floor Conf. Rm.
Neuropathology or Neuroradiology Conferences
Friday, 9:00 a.m., Neuropathology in Neuropathology Conference Rm., Neuroradiology in First Floor Conf. Rm.
Neurorehabilitation Conference
Tuesdays, noon, 8th Floor Conference Rm.
Neurosurgical Journal Club
Saturdays, 9:00-11:00 a.m. in Eighth Floor Conference Rm.

WALTER O. BOSWELL MEMORIAL HOSPITAL

10401 Thunderbird Boulevard, Sun City, AZ 85372. Contact: Martha R. Newby, Ed D., Director of Education.

Surgical Department CME
4th Friday, 7:00 a.m., Educ. Center Classrooms I & II. Contact. Brian Updegraff, M.D.

CAMELBACK HOSPITAL

5055 N. 34th St., Phoenix, AZ 85018. Sponsor: Camelback Hospital. Contact: Robert Meyer, M.D. Approved for Category 1 credit.
Clinical Conference
3rd Tuesday, 8-9 a.m.

DESERT SAMARITAN HOSPITAL

1400 South Dobson Road, Mesa, Arizona. Contact: William Selezinka, M.D. Approved for Category 1 credit.
CME Programs
Weekly, Tuesday, 7 p.m., Cafeteria-West End.
Clinical Conference — Dept. of Medicine
Weekly, Thursday, 12:30-1:30 p.m. Buffet Lunch, Grande Rm.
OB/GYN Medical Staff Conference
Weekly, Monday, 12:30-1:30 p.m. Grande Rm.
Pediatric Case Conference
2nd Friday, 12:30 p.m., Grande 2.

HUMANA HOSPITAL PHOENIX

1747 East Thomas Road, Phoenix, Arizona 85016. Contact: Medical Staff Secretary for additional information.
Physicians Continuing Education Program
1st Thursday, 12:30 p.m., Classrooms.

EL DORADO HOSPITAL TUCSON (THMEP)

1400 N. Wilmot Road, Tucson, AZ 85712. Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Family Practice Department Meeting
1st Monday, 12 Noon, (June, Sept. and Dec.) Contact: R. Grossman, M.D.
Surgical Department Meeting
3rd Monday, 11:45 p.m.
Medicine Department Meeting
1st Friday, 12:15 p.m.

FLAGSTAFF HOSPITAL & MEDICAL CENTER OF NORTHERN ARIZONA

1215 N. Beaver Street, P.O. Box 1268, Flagstaff, AZ 86002. Contact: B. C. Hirschberg, M.D., CME Program Clinical Conference. Approved for Category 1 credit.
Interesting Case Conference
1st Tuesday, 12:30 p.m., Tollefson Rm.
Clinical Conferences
Weekly, Tuesdays, 12:30 p.m., Tollefson Rm.
Tumor Board Case Conference
3rd Tues., 12:30 p.m., Hospital Conf. Rm.
Mortality & Morbidity Conference
1st Thurs., 12:30 p.m., Hospital Conf. Rm.

GOOD SAMARITAN MEDICAL CENTER

1111 East McDowell Rd., Phoenix, AZ 85006. Approved for Category 1 credit.
Obstetrical Sectional Conference
1st Monday, 12:30-1:30 p.m., Conf. Rm. E.
Gynecological Section Conference
2nd Monday, 12:30-1:30 p.m., Conf. Rm. E.
Obstetrical Sectional Conference
5th Monday, 12:30-1:30 p.m., Conf. Rm. E.
Pulmonary Grand Rounds
Weekly, Monday, 12 noon- 1 p.m., Amphitheater.
Family Practice
Weekly, Monday, 12:00-1:00 p.m., Family Practice Center.
Pediatric Grand Rounds
1st & 3rd Tuesday, 7:30-8:30 a.m., Amphitheater.
Family Practice
Weekly, Tuesday, 12:00-1:00 p.m., Family Practice Center.
Cardiology Grand Rounds
Weekly, Tuesday, 12:00-1:00 p.m., Amphitheater.
Medical Noon Conference
1st, 2nd, 4th, & 5th Wednesday, 12:00-1:00 p.m., T-8 Conference Rm.
Clinical Cancer Forum
3rd Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Family Practice
Weekly, Wednesday, 12:00-1:00 p.m., Family Practice Center.
Tumor Conference
2nd & 4th Wednesday, 12:00-1:00 p.m., Conf. Rms. E-F.
Surgical Grand Rounds
Weekly, Thursday, 7:00-8:30 a.m., Amphitheater.
Family Practice
Weekly, Thursday, 12:00-1:00 p.m., Family Practice Center.
Medical Noon Conference
Weekly, Thursday, 12:00-1:00 p.m., T-8 Conf. Rm.
Joint Tumor Gyn Conference
2nd Fri., 12:00-1:00 p.m., Conf. Rms. E-F
Medicine Grand Rounds
Weekly, Friday, 8:00-9:00 a.m., Amphitheater.
Neurology Grand Rounds
Weekly, Friday, 12:00-1:00 p.m., Amphitheater.
Psychiatry Grand Rounds
Weekly, Friday, 11:00-12:00 noon, Conf. Rm. E.

KINO COMMUNITY HOSPITAL (THMEP)

2800 E. Ajo Way, Tucson, AZ 85713. Contact: Eric G. Ramsey, M.D., Approved for Category 1 credit.
Surgical Conference
Weekly, Monday 8:00 a.m., Contact: Eric G. Ramsey, M.D.
Medical Conference
Daily, 12:30 p.m., Contact: Chief Medical Resident
OB/GYN Pathology Conference
Weekly, Thursday, 1:30 p.m., Contact: James Byers, M.D.
Psychiatry Journal Club
Weekly, Thursday, 12 Noon, Contact: Jose Santiago, M.D.

MARYVALE SAMARITAN HOSPITAL

5102 W. Campbell Ave., Phoenix, AZ 8500
Continuing Medical Education Program
2nd & 4th Wednesday, 12:30 p.m., Conference Rms.
Tumor Board
1st & 3rd Mondays, 12-1 p.m., Medical Conference Rms.

MARICOPA MEDICAL CENTER

2601 E. Roosevelt, Phoenix, AZ 85008. Contact: Leonard Tamsky, M.D.
Anesthesiology Morbidity & Mortality Conference
Weekly, Mondays, 2:45 p.m.
Surgery Burn Grand Rounds
Weekly 7:30 a.m.
Medicine Chest
1st & 3rd Monday, 12 Noon.
Medicine GI
2nd & 4th Monday, 12 Noon.
Medicine Dermatology
5th Monday, 12 Noon.
Chest/Surgery
Weekly, Mondays, 1:30 p.m.
Ambulatory Pediatrics
Weekly, 2:45 p.m.
OB Problem Conference
Weekly, Tuesday, 7:30 a.m.
Orthopedic Conference
Weekly, Tuesday, 7:30 a.m., Santa Cruz Room.
Medicine Neurology
1st & 3rd Tuesday, 12 Noon.
Medicine Renal
2nd Tuesday, 12 Noon.
Emergency Medicine
4th Tuesday, 12 Noon.
OB/GYN—Tri-Hospital Perinatal Mortality
3rd Tuesday, 12 Noon.
OB/GYN—Departmental Grand Rounds
1st and 2nd Tuesday, 12 Noon.

N Endocrine Conference
Tuesday, 12 Noon.
esthesiology—General
ekly, Tuesday, 2:45 p.m.
view of GYN Pathology Slides
ekly, Tuesday, 4:00 p.m.
diatric Grand Rounds
d Tuesday, 7:30 a.m.
thology Staff Inservice
ekly, Wednesday, 6:45-7:50 a.m.
esthesiology Residents & CRNA's nference
ekly, Wednesday, 7:00 a.m.
/Neonatal Conference
ekly, Wednesday, 7:30 a.m.
rgery
ekly, Wednesday, 7:00 a.m.
rgery Hand Conference
ekly, Wednesday, 7:30 a.m.
ychiatry Staff
Wednesday, 11:00 a.m.
ychiatry General Conference
d, 3rd, & 4th Wednesdays, 12 Noon.
dicine Cardiology
Wednesday, 12 Noon.
dicine Mortality
Wednesday, 12 Noon.
dicine Infectious Disease or Hematology
Wednesday, 12 Noon.
diatrics Renal/Endo Conference
Wednesday, 12:30 p.m.
diatrics Infectious Disease
Wednesday, 12:30 p.m.
esthesiology Staff Lecture
, 2nd & 4th Wednesday, 2:30 p.m.
rgery Morbidity & Mortality Conference
, 2nd & 4th Wednesday, 3:30 p.m.
es/Surgery Joint Traum Conference
Wednesday, 3:30 p.m.
rgery Urology Staff
Thursday, 7:30 a.m.
esthesiology Journal Club
Thursday, 8:00 a.m.
bulatory Pediatrics
ekly, Thursday, 8:00 a.m.
rgery Burn Chart Rounds
, 2nd, & 3rd Thursdays, 8:00 a.m.
rn Mortality Conference
Thursday, 8:00 a.m.
dicine Problem Case Conference
Thursday, 12 Noon.
dicine Rheumatology
d Thursday, 12 Noon.
dicine Staff & House (Separate)
Thursday, 12 Noon.
/GYN Resident Conference
, 2nd & 3rd Thursday, 12 Noon.
scular Surgery Conference
, 2nd & 4th Thursday, 12:30 p.m.
mbined GI & Surgery Conference
Thursday, 12:30 p.m.
esthesiology Chief Resident's Lecture
ekly, Thursdays, 2:45 p.m.
thopedic Surgery Basic Sciences
ekly, Thursdays, 5:30 p.m.
/Surgery Pathology
ekly, Fridays, 7:30 a.m.
thopedic Surgery Fracture X-Ray nference
ekly, Fridays, 7:30 a.m.
dicine Endocrinology
Friday, 12 Noon.
dicine Infectious Disease
d Friday, 12 Noon.
dicine/Radiology Conference
Friday, 12 Noon.
dicine Cardiology
Friday, 12 Noon.

OB/GYN Tumor Board
4th Friday, 12 Noon.
Surgery Tumor Board
1st, 2nd & 3rd Friday, 12 Noon.
GYN Endo Conference
1st & 3rd Friday, 12:30 p.m.
Pediatric Radiology Conference
1st & 2nd Friday, 12:30 p.m.
Pediatric Dermatology
3rd Friday, 12:30 p.m.
Pediatric Infectious Disease
4th Friday, 12:30 p.m.
Surgery Rehab Rounds
Weekly, Friday, 1:30 p.m.
Surgery Selected Readings
2nd & 4th Saturdays, 8:00 a.m.

MESA LUTHERAN HOSPITAL

501 West 10th Place, Mesa, Arizona 85201.
Contact: E. John Wickman, M.D.
Continuing Medical Education Programs
Tuesdays, 6:30 p.m., Ocotillo Rm.

PHOENIX BAPTIST HOSPITAL & MEDICAL CENTER

6025 N. 20th Ave., Phoenix, AZ 85015.
Contact: J. Burr Ross, M.D., Approved for Category 1 credit.
Clinical Conferences
1st, 2nd & 3rd Tuesdays, 12 noon,
5th Floor Auditorium.
CPC or Medical-Surgical Forum
4th Tuesday, 12 noon,
5th Floor Auditorium.

PHOENIX INDIAN MEDICAL CENTER

4212 North 16th St., Phoenix, AZ 85016.
Contact: Leland L. Fairbanks, M.D.,
Approved for Category 1 credit.
Clinical Staff Teaching Conference, Rm. A.
Weekly, Wednesday, 8:00-9:00 a.m.
Family Practice/Emergency Room Teaching Conference
Thursday, Weekly, 7:30-8:30 a.m.,
Conf. Rm. A, Contact: Drs. L. Fairbanks & E.Y. Hooper.

PHOENIX MEMORIAL HOSPITAL

1201 S. 7th Ave., Phoenix, AZ 85036.
Contact: George Scharf, M.D. Approved for Category 1 credit.
Monthly Medical Education Seminar
3rd Monday, 6:30 p.m., Kiva Conf. Rm.
Clinical Conferences
Weekly, Tuesday, 12:30 p.m., Kiva Conference Rm.
Psychiatric Clinical Conference
2nd Friday, 11:30 a.m., B-Wing Conf. Rm.,
Contact: Medical Staff Secretary.
Tumor Board Conference
Weekly, Friday, 12:00 p.m., Kiva Conf. Rm.

SCOTTSDALE MEMORIAL HOSPITAL

7400 East Osborn, Scottsdale, AZ 85251.
Contact: Tom Disney, M.D., Approved for Category 1 credit.

Family Practice Conference
1st Monday, 12:30 p.m., Doctors' Lounge.
Emergency Medical Services Conference
2nd Monday, 12:30 p.m., Doctors' Lounge.
Neurology/Neurosurgery Conference
3rd Monday, 12:30 p.m., Doctors' Lounge.
CPC Conference
4th Monday, 12:30 p.m., Doctors' Lounge.
Pediatrics Conference
5th Monday, 12:30 p.m., Doctors' Lounge.
Pulmonary Conference
1st Tuesday, 12:30 p.m., Doctors' Lounge.
Cardiology Conference
2nd Tuesday, 12:30 p.m., Doctors' Lounge.
Surgery Conference
3rd Tuesday, 12:30 p.m., Doctors' Lounge.
Resident Grand Rounds
4th Tuesday, 12:30 p.m., Doctors' Lounge.
Medical Subspecialties
5th Tuesday, 12:30 p.m., Doctors' Lounge.
Uronephrology Conference
3rd Thursday, 12:30 p.m., Doctors' Lounge.
Tumor Conference
4th Thursday, 12:30 p.m., Doctors' Lounge.
GI/Med/Surg/Radiology Conference
2nd Friday, 12:30 p.m., Doctors' Lounge.

TUCSON MEDICAL CENTER (THMEP)

5301 E. Grant Road, Tucson, AZ 85716.
Contact: Eric G. Ramsay, M.D. Approved for Category 1 credit.
Cardiology Conference
1st, 3rd, & 5th Mondays, 12 Noon,
Contact: M. Maximov, M.D.
Dermatology Conference
4th Monday, 5:00 p.m.,
Contact: R. Miller, M.D.
Endocrinology Conference
4th Monday, 12 Noon,
Contact: M. Parker, M.D.
Nephrology Conference
2nd Monday, 12 Noon,
Contact: Stephen Seltzer.
Psychiatry Department Meeting
3rd Monday, 12 Noon,
Contact: Howard Winkler, M.D.
Perinatal Conference
2nd Tuesday, 7:00 a.m.
Surgical Conference
2nd Tuesday, 7:15 a.m.
Hematology Conference
4th Tuesday, 12 Noon,
Contact: Gerald Giordano, M.D.
Pulmonary/Infectious Disease Conference
Weekly except 4th, Tuesday, 12 Noon,
Contact: B. Friedman, M.D.
Orthopedic Conference
1st Tuesday, 7:30 p.m.,
Contact: Jay Katz, M.D.
Pediatric Grand Rounds
1st & 3rd Tuesdays, 12:30 p.m.,
Contact: Dr. Lightner.
Neurophysiology Conference
2nd Tuesday, 5:00 p.m.,
Contact: Robert Foote, M.D.
Clinical Pathology Conference
Last Wednesday, 8:00 a.m.,
Contact: Dr. Fuchs.
Medical Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: M. Fuchs, M.D.
Neuorology-Neurosurgery Conference
Weekly, Wednesday, 12 Noon,
Contact: H. W. Buschsbaum, M.D.

Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact. N. Komar, M.D.
Tumor Conference
Weekly, Thursday, 12 Noon,
Contact. Cancer Committee.
GI Conference
Weekly, Friday, 12 Noon,
Contact: Charles Sanner, M.D.
Interhospital Nuclear Medicine Conference
Weekly, Friday, 7:15 a.m.,
Contact: S.V. Hilts, M.D.
OB/GYN Conference
1st Friday, 7:30 a.m.,
Contact: Charles Parker, M.D.
OB/GYN Pathology Conference
3rd Friday, 7:30 a.m.,
Contact: R. Spark, M.D.

PHOENIX VETERANS ADMINISTRATION MEDICAL CENTER

7th Street and Indian School Road, Phoenix, AZ 85012. Contact: Alfred Heilbrunn, M.D. Approved for Category 1 credit.
Urology Conferences
Weekly, Tuesdays, Room 2413 - Uropathology
Weekly Tuesdays, Room D-335 — Consultation
Weekly, Fridays, Room 3134 — Uroradiology
These activities are a part of the CME program at the Veterans Administration Medical Center
Medical Service Grand Rounds
Weekly, Friday, 11:00 a.m. Rm. T-5,
Contact Dr. Zeller, Ext. 272
Medical/Surgical GI Conference
1st & 3rd Mondays, 3:00 p.m., Rm. 3134
Contact: Dr. Kozarek, Ext 413
Dr. Mertz, Ext 493.
Cancer Symposium
2nd Monday, 3:00-4:00 p.m., Rm. T5,
Contact: Dr. Byrne, Ext. 426.
Endocrine Conference
Weekly, Friday, 1:00 p.m., Rm. C435,
Contact Dr. Benene, Ext. 786
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm 3134,
Contact: Dr. Russo, Ext. 362
and Dr. Mertz, Ext. 495.
Surgery — Pathology Conference
4th Monday, 4:00 p.m., Rm 3134,
Contact: Dr. Mertz & Dr. Lanard.
GI Radiology Clinical Correlation Conference
1st and 3rd Tuesdays, 12:00 noon, Rm. C435, Contact: Dr. Sanowski, Ext. 321.
G.I. Grand Rounds
Weekly, Tuesday, 1:00 p.m., Rm. C435
Contact: Dr. Sanowski, Ext. 321
GI Pathology Conference
2nd and 4th Tuesdays, 12:00 noon,
Rm. 2413, Contact: Dr. Sanowski, Ext. 321
Renal Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact Dr. N. Sharma, Ext. 212
Urology Histopathology Conference
Weekly, Tuesdays, 8:00-9:00 a.m., Rm 2410,
Contact: Drs. Haddad & Kivirand, Ext. 417.
Pulmonary X-ray Correlation Conference
Weekly, Wednesdays, 12:30-1:30 p.m.,
Room 4115, Contact: Dr. Rohwedder,
Ext. 388.
Cardiology Conference
2nd & 4th Thursday, 1:00 p.m., Rm. C435,
Contact: Dr. C. Sharma, Ext. 435
Medical/Surgical Chest Conference
1st & 3rd Thursdays, 12:30 p.m., Rm. 4115
Contact: Dr. Rohwedder.
Medical Mortality Conference
1st Friday, 11:00 a.m., Room T-5,
Contact: Dr. Zeller, Ext. 272
Medical-Surgical G.I. Conference
1st & 3rd Monday, 3:00 p.m., Rm. 3134
Contact: Dr. Sanowski Ext. 321 & Dr. Mertz, Ext. 495
Medical-Surgical Chest Conference
1st & 3rd Thursday, 1:00, Rm. C435,
Contact Dr. Rohwedder, Ext. 388
Neurology Conference
Alternating Wednesdays, 1:00 p.m., Rm. C435, Contact: Dr. Lawrence, Ext. 410.
Neuro-Psychiatry Conference
4th Thursday, 2:30 p.m., Rm. 4115, Contact Dr. Arnold, Ext. 647
Orthopedic Surgery Conference
2nd Monday, 7:30 a.m., Rm. 3134, Contact: Dr. Russo Ext. 362 & Dr. Mertz Ext. 495
Psychiatry Service Clinical Conference
3rd Wednesday, 8:30 a.m., Rm. D512,
Contact Dr. Arnold, Ext. 647.
Pulmonary Xray Correlation Conference
Weekly, Monday, 10:00 a.m., Rm C435,
Contact Dr. Rohwedder, Ext. 388.
Surgery-Pathology Conference
3rd Monday, 4:00 p.m., Rm. 2413, Contact Dr. Mertz, Ext. 495 & Dr. Kerr, Ext. 511
Urology Conference
Weekly, Tuesday, 8:00 a.m., Room 3134,
Contact: Dr. Haddad, Ext 418.
Uropathology Conference
Weekly, Tuesday, 9:00 a.m., Rm. 2413
Contact: Drs. Haddad & Kivirand, Ext. 418
Uroradiology Conference
Weekly, Friday, 12:00, Rm. 3134, Contact Dr. Haddad, Ext. 418
Vascular Conference
2nd Friday, 8:00-9:00 a.m., Rm. 3134,
Contact: Dr. Cintora, Ext. 417.

PRESCOTT VETERANS ADMINISTRATION HOSPITAL MEDICAL CENTER

Prescott, Arizona 86313. Contacts listed below. Approved for Category 1 credit.
Medical Rounds
1st & 3rd Thursdays, 10:00 a.m.-2:30 p.m.
Surgical Rounds
4th Thursday, 10:00 a.m.-2:30 p.m.

TUCSON VETERANS ADMINISTRATION HOSPITAL & MEDICAL CENTER (U of A Tucson)

3601 South Sixtieth Ave., Tucson, AZ 85723. Contacts listed below. Approved for Category 1 credit.
Medical/Surgical Chest Conference
Weekly, Tuesday, 2:00 p.m.,
Contact: Dr. Young.
Medical Grand Rounds
Weekly, Wed., 12:00-1:00 p.m., VA Hospital Staff Conf. Rm. & (AHSC),
Contact: Jay Smith, M.D.
Surgical Grand Rounds
Weekly, Wed., 4:00 p.m.,
Contact: Dr. Putnam.
Endocrinology Seminar
1st, 3rd, & 5th Thursday, 12:00-1:00 p.m., Rm. N318, Contact: Department of Internal Medicine.
Grand Rounds
Weekly, Thursday, 11:00 a.m., Bldg. 107,
Contact: J. Fitzharris, D.O.
Vascular Radiology, Interesting Case Cor
Weekly, Thursday, 12:00 noon.
Neurology Grand Rounds
Weekly, Friday, 12:00 p.m.,
Contact: Dr. Sibley.

YUMA REGIONAL MEDICAL CENTER (U of A, Tucson/ArMA)

2400 Avenue A., Yuma, Az 85364. Contac Alan Winfield, M.D. Approved for Category 1 credit.
Radiology Conference
1st Tuesday, 7:00 a.m.
Operation Outreach
2nd Tuesday, 6:30 p.m.
Pathology Conference
4th Tuesday, 7:00 a.m.
Operation Outreach
2nd Wednesday, 7:00 a.m.

ST. LUKE'S HOSPITAL MEDICAL CENTER

525 North 18th Street, Phoenix, AZ.
Contact: Gerald L. Hansbro, M.D.
Outpatient Detoxification Program for Alcohol and Drug Abuse
Weekly, Friday, 7:30 am. - 8:30 am., Phillips Auditorium
Cardiac Conference
Weekly, Monday, 12:15 p.m., Auditorium.
Chest Conference
4th Monday, 12:15 p.m., Phillips Auditorium.
Surgery Conference
1st Tuesday, 12:15 p.m., Auditorium.
Emergency Medicine Conference
1st Wednesday, 12:15 p.m., Auditorium.
Cardiovascular-Thoracic Record Review
3rd Wednesday, 12:15 p.m., Auditorium.
Pulmonary Case Conferences
1st Thursday, 7:30 a.m., Phillips Auditorium.
Psychiatric Conference
4th Friday, 11:30 a.m. — 12:30, Auditoriu
Combined Medical General Practice Conference
1st Friday, 12:15 p.m., Auditorium.
Toxicology Grand Rounds
2nd Friday, 7:30 a.m., Auditorium.
Ophthalmology Conference
1st Saturday, 8:30 a.m., Auditorium.

ST. JOSEPH'S HOSPITAL PHOENIX

350 West Thomas Road, Phoenix, AZ 85013. Contact: Joseph C. White, M.D.
OB/GYN Section Conference
3rd & 4th Mondays, 12:30-1:30 p.m.,
1st Floor Conf. Rm.
Genetics Conference
Weekly, Monday, 12:30 p.m.,
Pediatric Department.
Pediatric Rounds
Weekly, Monday, Wed. & Friday, 10:30 a.n
Pediatric Department.

ediatric Grand Rounds
h Tuesday, 7:30-8:30 a.m., Contact:
Kipp Charlton, M.D.
CG Conference
eekly, Tuesday, 12:30 p.m., Pediatric
epartment.
edical Grand Rounds
eekly, Wednesday, 8:00 a.m.,
st Floor Conf. Room.
siting Professor Formal Presentation
eekly, Thursday, 8:00 a.m., PIMC.
siting Professor Informal Presentation
eekly, Thursday, 9:30 a.m.,
st Floor Conf. Room.
siting Professor Formal Presentation
eekly, Thursday, 12:30 p.m., PIMC.
ephrology Conference
eekly, Fridays, 12:30 p.m.,
ediatric Department.

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0 N. Wilmot Road, Tucson, AZ 85711
ontact: Yvonne Clingerman, Medical Staff
ffice. Approved for Category 1 credit.
urrent Concepts in Medicine
eekly, Tuesday, 12 Noon, Auditorium
Talk on Allergies
eekly, Tuesday, 12 Noon, Auditorium
urgery Department Conference
h Monday, 12 Noon, Auditorium
ematology/Oncology Conference
st Wednesday, 12 Noon, Contact:
ck Mansour, M.D.
phthalmology Case
d Tuesday, 7:30 a.m.
phthalmology Society
h Tuesday, 6:00 p.m., Auditorium
ontact: Leonard Joffe, M.D.

ST. MARY'S HOSPITAL & HEALTH CENTER

01 W. St. Mary's Road, Tucson, AZ
703. Contact: see below.
onthly Specialty Conference — Dept. of urgery
t Monday, 7:30 a.m., Century Rm. A.,
ontact: Med. Staff Office.
oint Liver Conference - Lab Conference oom
d Monday of each month - 12:00 noon.
rand Rounds: Medical, Surgical, Family actice, Pathology, Radiology
eekly, Thursday.
nergency Medicine Lectures
eekly, Thursday, 8:00 a.m.,
entury Rm. A.
ardiology Conference
eekly, Friday, 8:00-9:00 a.m., Century
m., Contact: Anthony Forte, M.D.

U OF A HEALTH SCIENCES CENTER

onsor: U of A College of Medicine,
ucson, AZ 85724. Robert M. Anderson,
.D., Dir. of CME. Contact: See below.
pproved for Category 1 credit.
nesthesiology Board Review Conference
d & 4th Monday, 4:00-5:00 p.m., AHSC
ning Rm. C&D, Contacts:
rs. Vaughn & Kryc.

nesthesiology Basic/Clinical Sciences ectures
Weekly, Thursday, 4:00-5:00 p.m.,
oom 5403.

Anesthesiology Case Discussion
Weekly, Wednesday, 7:00 a.m., AHSC, Dining Rm. C&D.
Anesthesiology Resident Presentation
1st Monday, 4:00-5:00 p.m., AHSC Dining Room, C&D, Contacts: Drs. Otto & Zehngut.
Cancer Center Tumor Board Seminar
3rd Tuesday, Monthly, 12:00-1:00 p.m., HSC Auditorium, Contact: Cancer Center.
Cardiac Catheterization Conference
Weekly, Friday, 4:30 p.m.,
Contact: Dr. Ewy.
Cardiology Non-invasive Conference
Weekly, Friday, 3:30 p.m.,
Contact: Dr. Ewy.
Tucson Cardiac Society
1st Thursday, 6:30 p.m., Arizona Inn,
Contact: Karen Garcia.
Clinical Immunology, Allergy & Rheumatology Rounds
Every Friday, Noon-1:00 p.m. Contact: John Boyer, M.D., Dept. of Internal Medicine.
Cerebrovascular Disease Conference
Mondays, 5:00-6:00 p.m., Weekly,
Rm. 5505., Contact: Jerry Goldstone, M.D., Dept. of Surgery.
Dermatology Conference
4th Monday, 5:15 p.m., AHSC,
Contact: Dr. R. Friedman.
Dermatology Rounds
Weekly, Wednesday, 11:30 a.m.,
Contact: Dr. Lynch.
Ear, Nose & Throat Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. S. Coulthard
Endocrinology Seminar
Weekly, Thursday, 12:00-1:00 p.m.,
Contact: Dr. Johnson.
Emergency Medicine Grand Rounds
Tuesdays, 9:00 a.m., AHSC,
Contact: Dr. Sanders.
GI Pathology Conference
4th Friday, 1:30 p.m., AHSC,
Contact: S. Paplanus.
GI Radiology Conference
2nd & 4th Mondays, 7:30 a.m., AHSC,
Contact: Dr. T. Hunter.
Head & Neck Tumor Management Conference
Weekly, Wednesday, 4:00 p.m.,
Contact: Dr. Murrell.
Hematology-Oncology Clinical Conference
1st & 5th Tuesdays, Noon-1:00 p.m.,
Rm. 6505. Contact: S. Salmon, M.D.,
Dept. of Internal Medicine.
Medical Grand Rounds
Weekly, Wednesday, 12:00-1:00 p.m.,
AHSC, Contact: Dr. J. Smith.
Morbidity/Mortality in E.M.
2nd Tuesday, 9:00 a.m., AHSC,
Contacts: Drs. Hughes & Alcorn.
Neuromuscular Disease Conference
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Stern.
Neuropathology Case Review
Weekly, Friday, 8:30 a.m., UAHSC,
Contact: Dr. P. Johnson.
Neuroradiology Conference
Weekly, Thursday, 5:00 p.m.,
Contact: Dr. P. C. Christenson.
Neuromuscular Journal Conference
2nd & 4th Thursdays, 7:00-9:00 p.m.,
Contact: Dr. Stern.

Neurosciences Seminar
Weekly, Tuesday & Friday, 7:30 a.m.,
AHSC, Contact: Dr. C. Bamford.

Nuclear Medicine
Weekly, Thursday, 7:30 a.m., AHSC
Radiology Conference Rm.
OB/GYN Lectures
Weekly, Friday, 3:30 p.m., AHSC,
Contact: Dr. C. D. Christian.
Ophthalmology Grand Rounds
3rd Friday, 7:30 a.m., AHSC,
Contact: Dr. J. Herschler.
Ophthalmology Retina Fluoro. Conference
Weekly, Thursday, 5 p.m., AHSC,
Contact: Dr. H. Cross.
Orthopedic Rounds
Saturday, 8:00 a.m., Contact: Dr. Peltier.
Pain Conference
3rd Monday, 4:00-5:00 p.m., AHSC Dining Rm. C&D, Contact: Drs. Hameroff & Cork.
Pathology Conference
Weekly, Monday, 12 noon, AHSC,
Contact: Dr. C. D. Christian.
Pathology Seminar
Weekly, Friday, 4:30-5:30 p.m., AHSC,
Rm. 5120. Contact: Dr. P. Finley.
Tucson Pathologist Conference
1st Monday, 7:30 p.m., AHSC,
Contact: Dr. A. R. Graham.
Pediatric Grand Rounds
2nd, 4th & 5th Tuesdays, 12:00 p.m., AHSC,
Contact: Dr. H. Thompson.
Pediatric Problem Patient Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Lillian Valdes-Cruz.
Pediatric Research Forum
Weekly, Tuesday, 7:30 a.m.,
Contact: Dr. Otakar Koldovsky.
Pediatric Specialty Conference
Weekly, Friday, 8:00 a.m., Contact:
Dr. Marilyn Heines & Jane Ruggill.
Psychiatric Grand Rounds
Weekly, Wednesday, 5:30 p.m., AHSC,
Rm. 8403, 5th Floor Auditorium.
Psychiatric Monthly Case Conference
2nd Friday, 7:30 a.m., Contact:
Dr. Alan Levenson, Palo Verde Hospital.
Pulmonary Rounds
Weekly, Friday, 11:30 a.m.,
Contact: Dr. Benjamin Burrows.
Chest Radiology
Weekly, Monday, 5:00-6:00 p.m.,
Rm. 1535F, UAHSC. Contact:
Irwin M. Freundlich, M.D.,
Department of Radiology.
Neuroradiology Teaching Conference
Weekly, Wednesday, 7:30 a.m., AHSC,
Contact: Dr. Christenson.
Poison Control
Weekly, Wednesday, 4:00 p.m.
Contact: Dr. Tong.
Radiation Oncology Planning Conference
Weekly, Friday, 8:30-10:00 a.m., AHSC,
Rm. 0655.
Radiology Interesting Case Conference
Weekly, Thursday, 12:00 noon, AHSC,
Contact: Dr. Freundlich.
Radiology-Rheumatology Conference
Weekly, Thursday, 7:45 a.m., UAHSC,
Library Rm.1535C.
Renal Pathology Conference
1st, 3rd, & 5th Thursdays, 11:30 a.m.,
Contact: Dr. Nagle.
Residents Noon Conference
Weekly,Tuesday & Thursday, 12:00 noon,
AHSC, Contact: Dr. A. Greensher.
Resident's Conference
Weekly, Wednesday, 5:00-6:00 p.m.,
Diag. Radiology Conf. Rm.
Surgical Grand Rounds
Saturdays, 9:00 a.m., Rm. 5403, AHSC,
Contact: Dr. Wangensteen.

Surgical Morbidity & Mortality Conference
Weekly, Wednesday, 8:00 a.m.,
Contact: Dr. Wangensteen.
Trauma Conference
Thursday, 4:00-5:00 p.m. AHSC, Rm. 5505.
Tucson Ultrasonography Group
Weekly, Wednesday, 4:30 p.m., AHSC,
Contact: Dr. I. Freundlich.
General Urology Conference
Weekly, Tuesday & Thursday, 12:00 noon,
AHSC & VA Hospital
Contact: Dr. G.W. Drach.
Vascular Surgery Conference
Weekly, Tuesday, 4:00-6:00 p.m., AHSC,
Contact. Dr. J. Goldstone.

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Please see brief summary of prescribing information on the next page for further details.

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BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

INDERAL® LA brand of propranolol hydrochloride **(Long Acting Capsules)**

DESCRIPTION. Inderal LA is formulated to provide a sustained release of propranolol hydrochloride. Inderal LA is available as 80 mg, 120 mg, and 160 mg capsules.

CLINICAL PHARMACOLOGY. INDERAL is a nonselective beta-adrenergic receptor blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg for mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

The mechanism of the antihypertensive effect of INDERAL has not been established. Among the factors that may be involved in contributing to the antihypertensive action are (1) decreased cardiac output, (2) inhibition of renin release by the kidneys, and (3) diminution of tonic sympathetic nerve outflow from vasomotor centers in the brain. Although total peripheral resistance may increase initially, it readjusts to or below the pretreatment level with chronic use. Effects on plasma volume appear to be minor and somewhat variable. INDERAL has been shown to cause a small increase in serum potassium concentration when used in the treatment of hypertensive patients.

In angina pectoris, propranolol generally reduces the oxygen requirement of the heart at any given level of effort by blocking the catecholamine-induced increases in the heart rate, systolic blood pressure, and the velocity and extent of myocardial contraction. Propranolol may increase oxygen requirements by increasing left ventricular fiber length, end diastolic pressure and systolic ejection period. The net physiologic effect of beta-adrenergic blockade is usually advantageous and is manifested during exercise by delayed onset of pain and increased work capacity.

In dosages greater than required for beta blockade, INDERAL also exerts a quinidine-like or anesthetic-like membrane action which affects the cardiac action potential. The significance of the membrane action in the treatment of arrhythmias is uncertain.

The mechanism of the antimigraine effect of propranolol has not been established. Beta-adrenergic receptors have been demonstrated in the pial vessels of the brain.

Beta receptor blockade can be useful in conditions in which, because of pathologic or functional changes, sympathetic activity is detrimental to the patient. But there are also situations in which sympathetic stimulation is vital. For example, in patients with severely damaged hearts, adequate ventricular function is maintained by virtue of sympathetic drive which should be preserved. In the presence of AV block, greater than first degree, beta blockade may prevent the necessary facilitating effect of symoathetic activity on conduction. Beta blockade results in bronchial constriction by interfering with adrenergic bronchodilator activity which should be preserved in patients subject to bronchospasm.

Propranolol is not significantly dialyzable.

INDICATIONS AND USAGE. Hypertension: INDERAL LA is indicated in the management of hypertension, it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

Angina Pectoris Due to Coronary Atherosclerosis: INDERAL LA is indicated for the long-term management of patients with angina pectoris.

Migraine: INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

Hypertrophic Subaortic Stenosis: INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

CONTRAINDICATIONS. INDERAL is contraindicated in 1) cardiogenic shock, 2) sinus bradycardia and greater than first degree block, 3) bronchial asthma, 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

WARNINGS. CARDIAC FAILURE. Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely; or INDERAL should be discontinued (gradually, if possible).

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

Nonallergic Bronchospasm (e.g., chronic bronchitis, emphysema)— PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY. The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta receptor agonists and its effects can be reversed by administration of such agents, e.g. dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA. Beta-adrenergic blockade may prevent the appearance of certain premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia in labile insulin-dependent diabetes. In these patients, it may be more difficult to adjust the dosage of insulin.

THYROTOXICOSIS. Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol does not distort thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

PRECAUTIONS. *General.* Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

Clinical Laboratory Tests. Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS. Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Carcinogenesis, Mutagenesis, Impairment of Fertility. Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

Pregnancy. Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS. Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

Cardiovascular. bradycardia, congestive heart failure, intensification of AV block, hypotension; paresthesia of hands, thrombocytopenic purpura, arterial insufficiency, usually of the Raynaud type.

Central Nervous System. lightheadedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances, hallucinations; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics.

Gastrointestinal. nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

Allergic. pharyngitis and agranulocytosis, erythematous rash, fever combined with chills and sore throat, laryngospasm and respiratory distress.

Respiratory. bronchospasm.

Hematologic. agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

Auto-Immune. In extremely rare instances, systemic lupus erythematosus has been reported.

Miscellaneous. alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

DOSAGE AND ADMINISTRATION. INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL tablets to INDERAL LA capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg for mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three to seven day intervals until optimum response is obtained. Although individual patients may respond at any dosage level, the average optimum dosage appears to be 160 mg once daily. In angina pectoris the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimum migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximum dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

REFERENCES

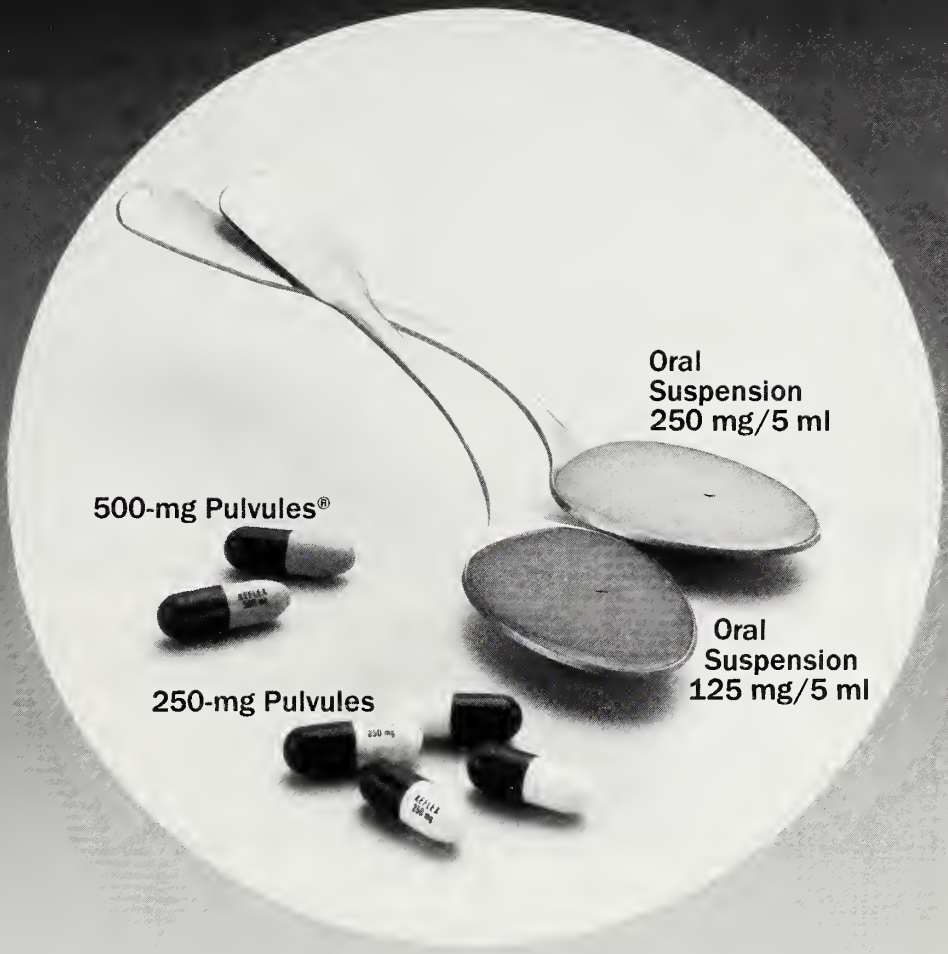
1. Holland OB, Nixon JV, Kuhnert L: Diuretic-induced ventricular ectopic activity. *Am J Med* 1981;70:762-768. **2.** Holme I, Helgeland A, Hjermann I, et al: Treatment of mild hypertension with diuretics. The importance of ECG abnormalities in the Oslo study and in MRFIT. *JAMA* 1984;251:1298-1299.

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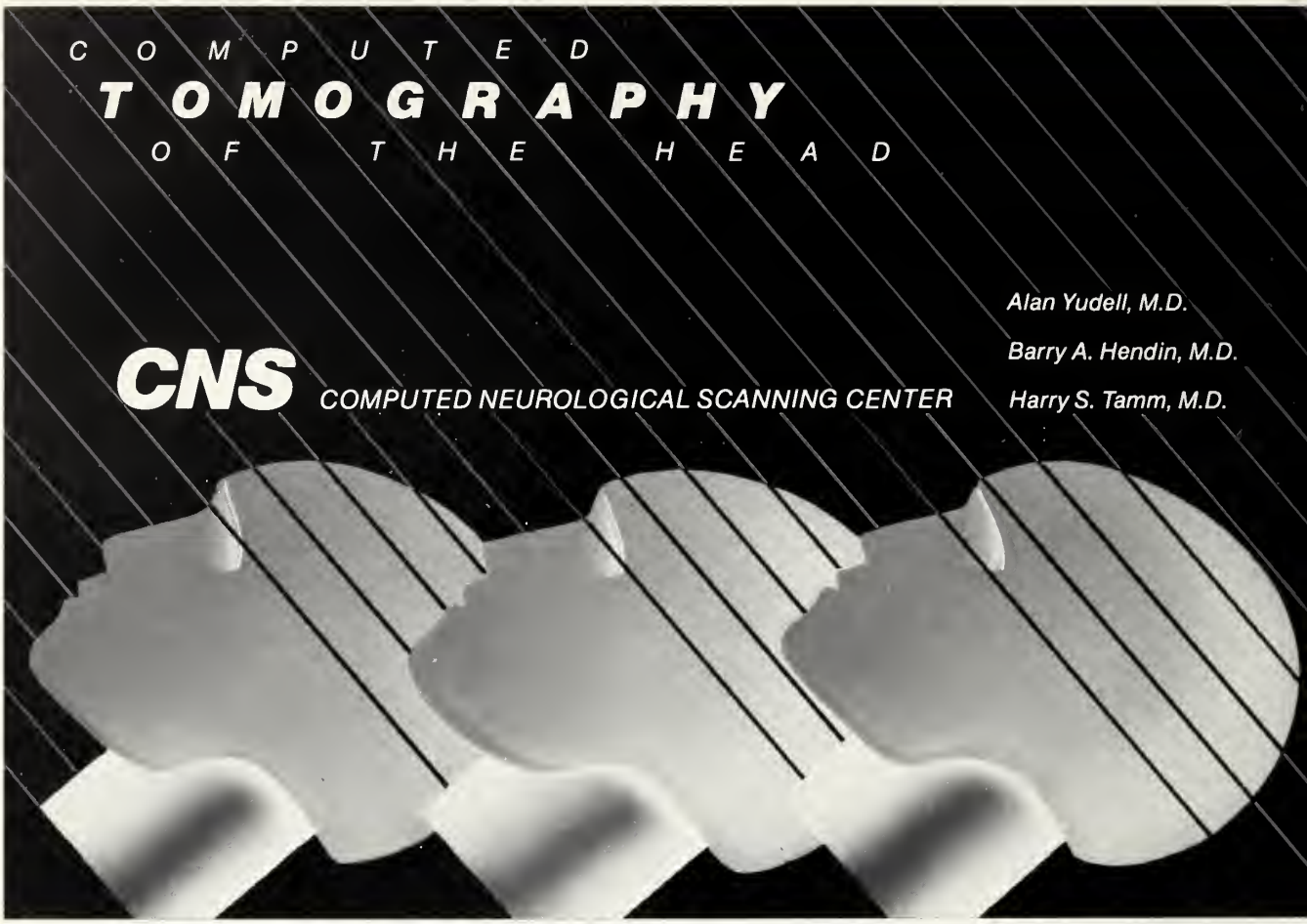
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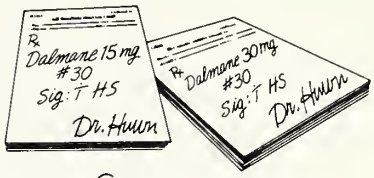
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